

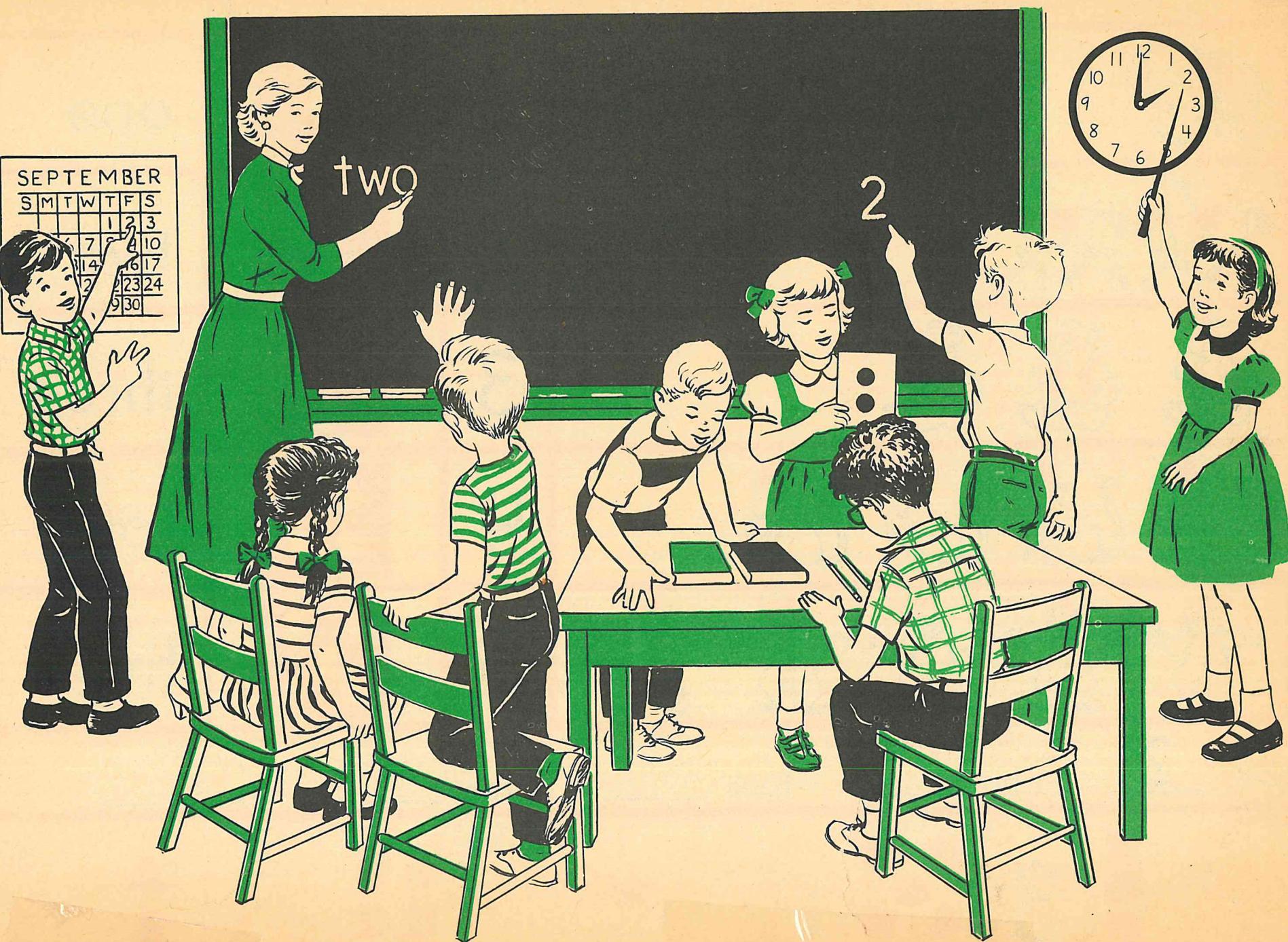
90  
Randy

# Using Numbers



Revised in 1961  
(Originally by Elda Merton &  
Leo Brueckner)

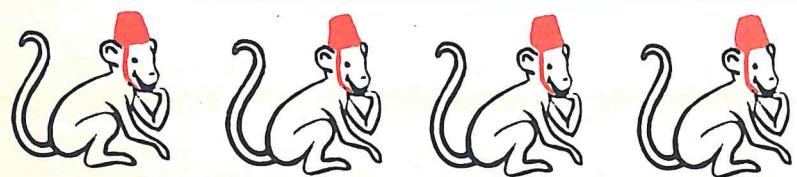
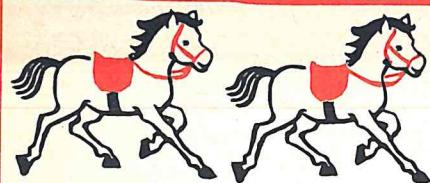




class lesson suggests ways to show the numbers on the next page.

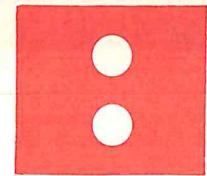
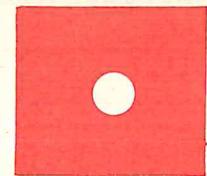
"meaning, quantity, and social uses of 2. Discuss the ways of showing 2 pictured here. They demonstrate ways to show 2 in their classroom. This

2

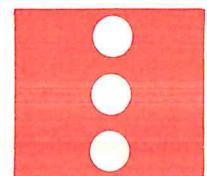


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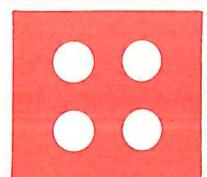
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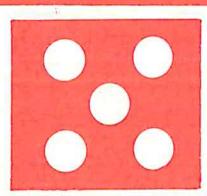
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4



5



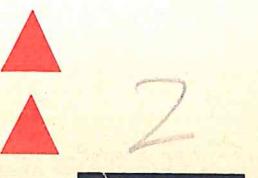
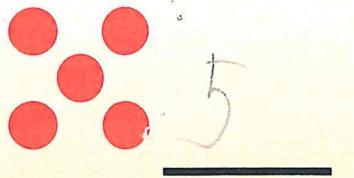
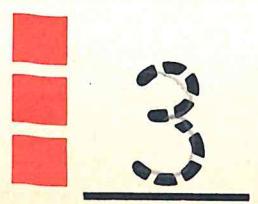
one

two

three

four

five

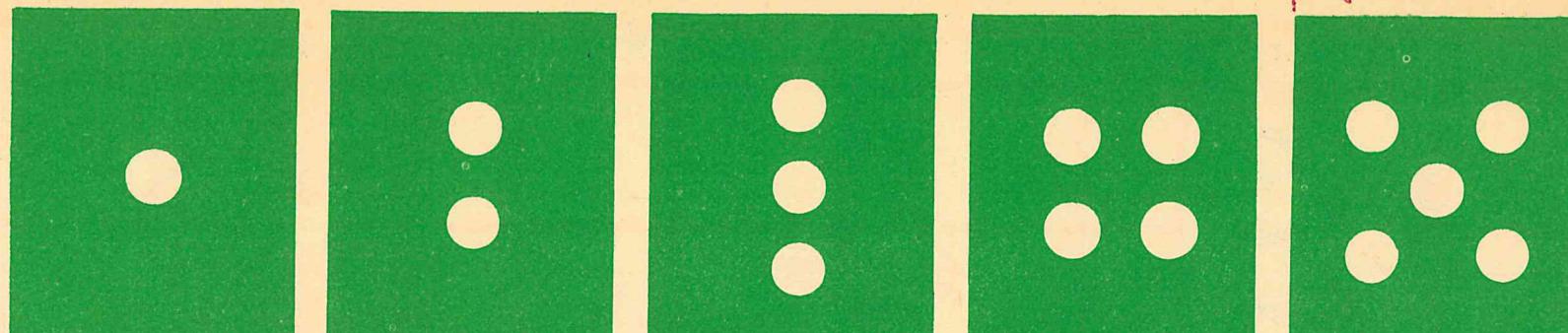
two 2one 1four 4three 3five 5

Learning various ways to express each of the numbers from 1 to 5. Children use concrete objects, the pictured objects, the number symbol, the semi-concrete grouping, and the name. They also show the numbers as on page 1.

number symbol, the semi-concrete grouping, and the name. They also show the numbers as on page 1.

Learning to construct the semi-concrete group patterns for the numbers from 1 to 5. Children first construct groupings with

disks. They then draw the disk pattern and write the symbol for the number names below the boxes.



one

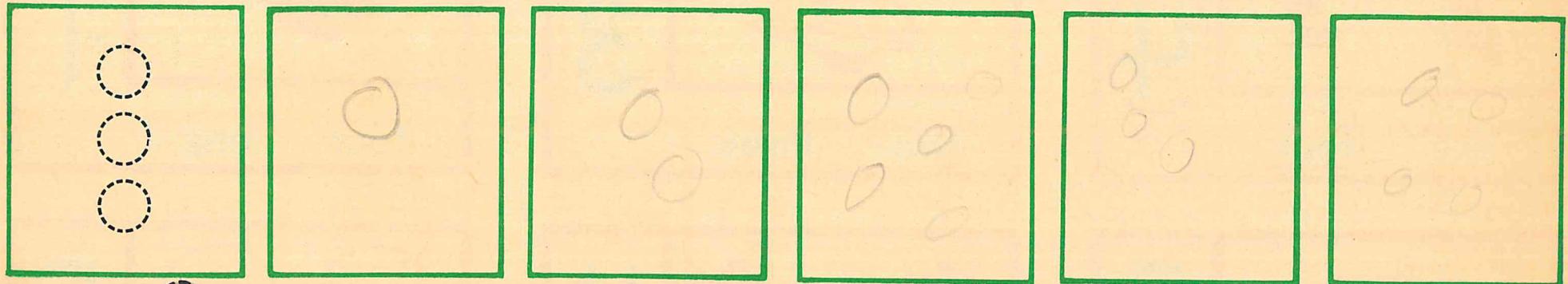
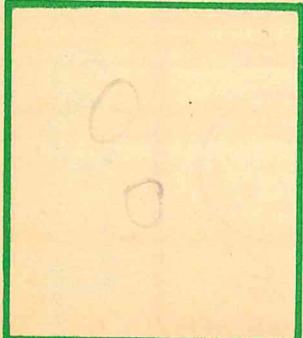
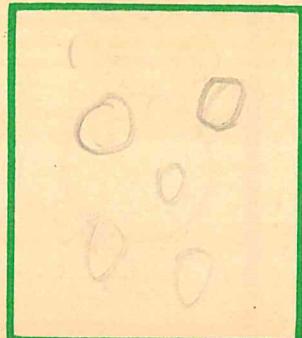
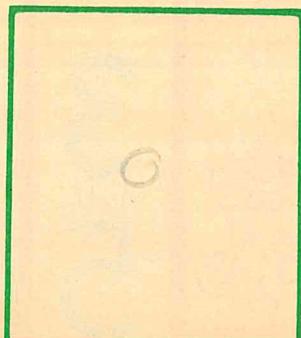
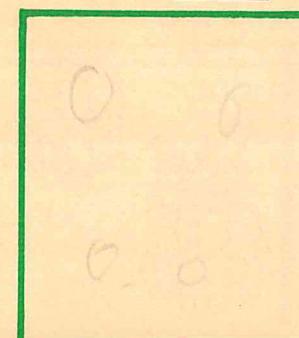
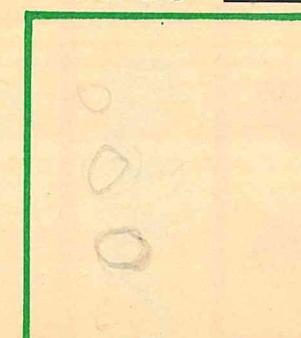
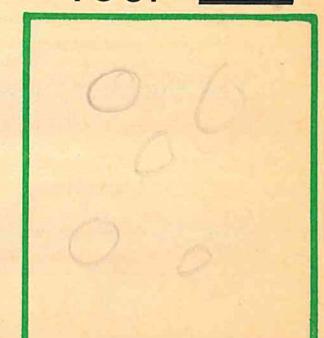
two

three

four

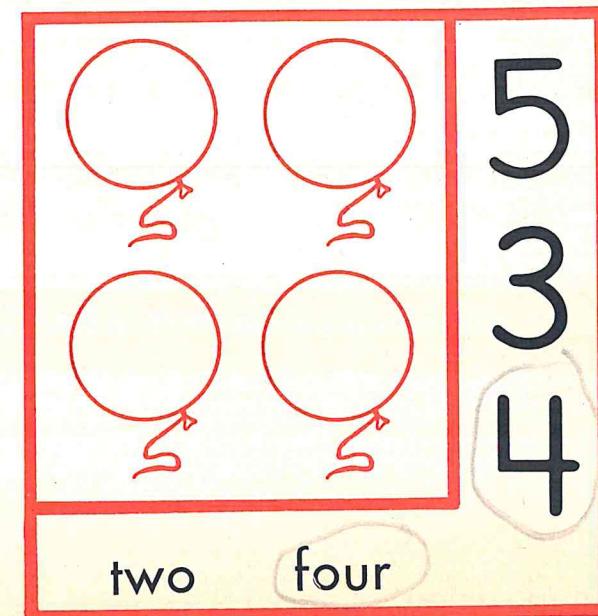
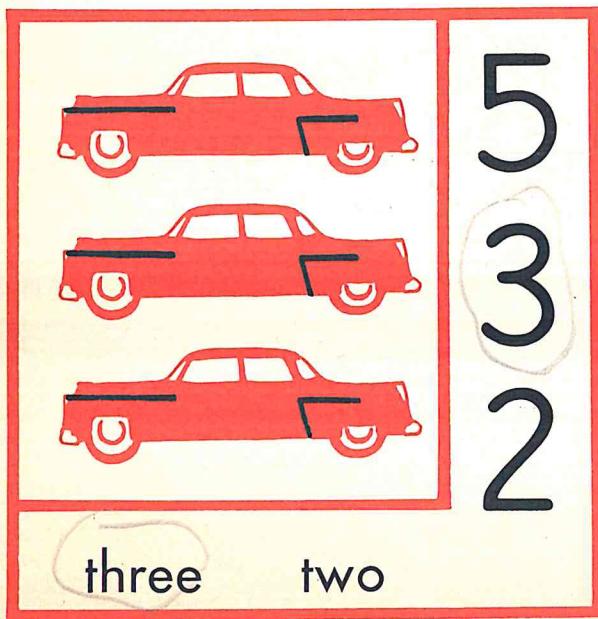
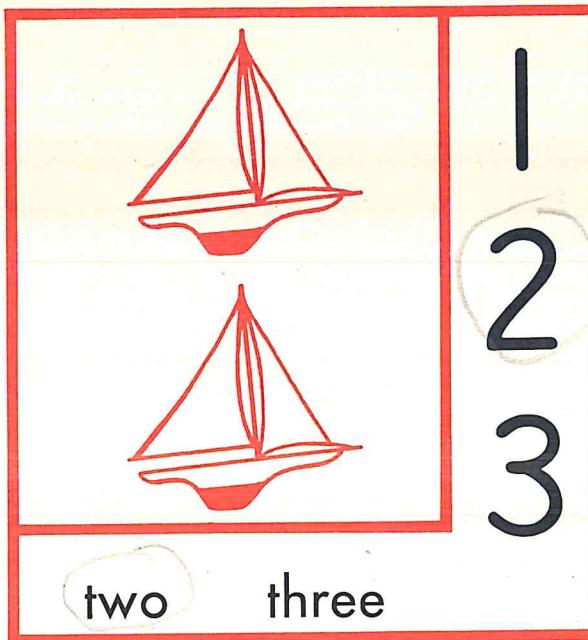
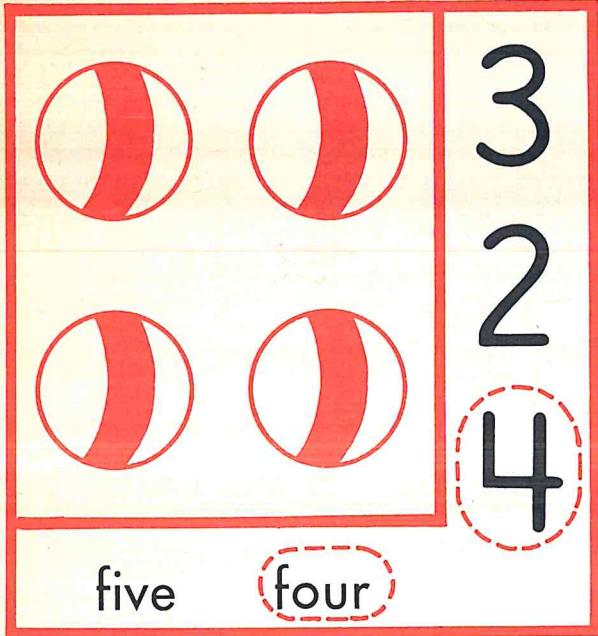
five

A

three 3one 1two 2five 5three 3four 4two 2five 5one 1four 4three 3five

4

Draw a line around the number that tells how many.

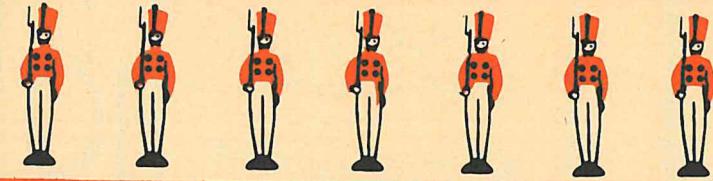
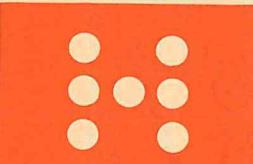
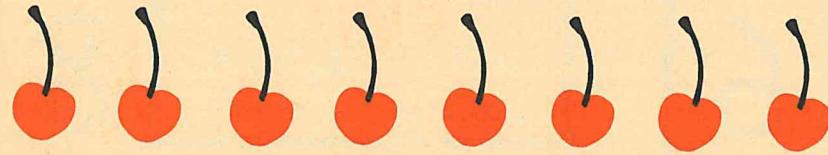
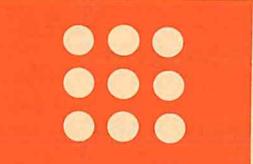
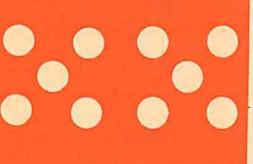


Identifying quantities from 1 to 5 arranged in geometric patterns. Children identify the quantity pictured and circle the matching number symbol beside the picture and the matching number name below the picture.

matching number symbol beside the picture and the matching number name below the picture.

number symbol, the semi-concrete grouping, and the number name. They also show each number as on page 1

Learning various ways to express each of the numbers from 6 to 10. Children use concrete objects, the pictured objects, the

	A	6		six
		7		seven
		8		eight
		9		nine
		10		ten

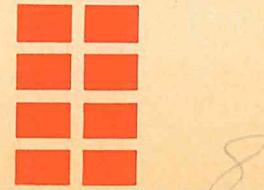
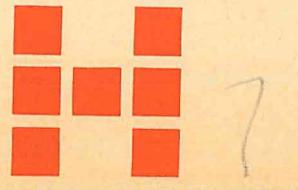
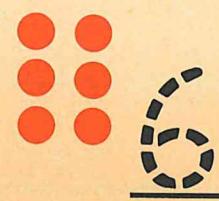
seven 7

nine 9

six 6

ten 10

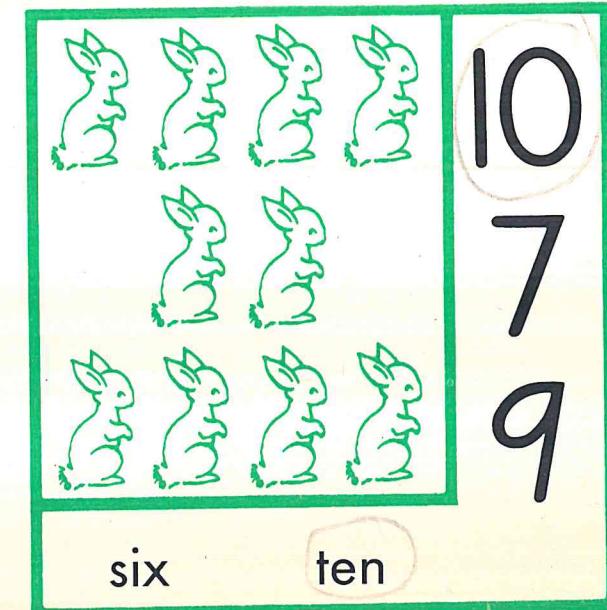
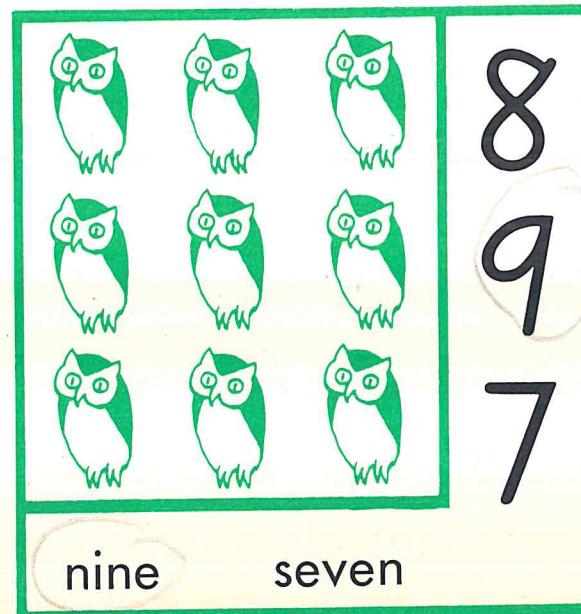
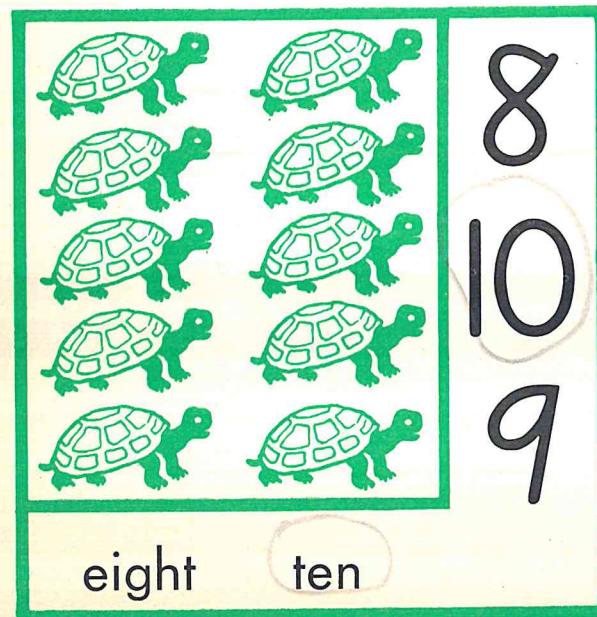
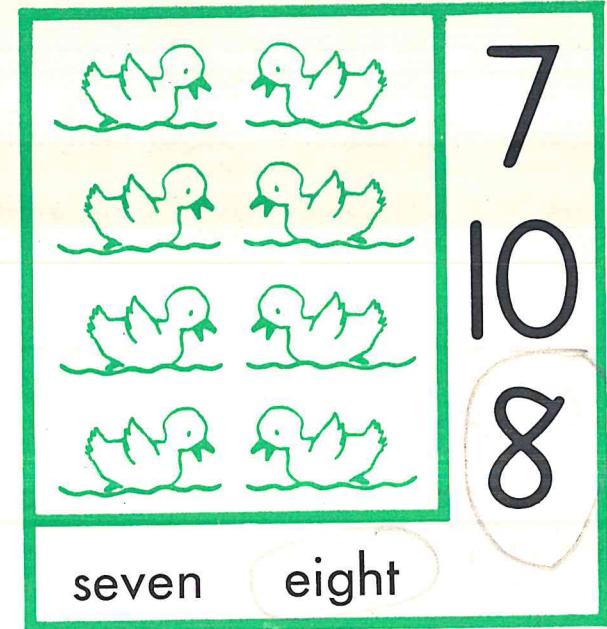
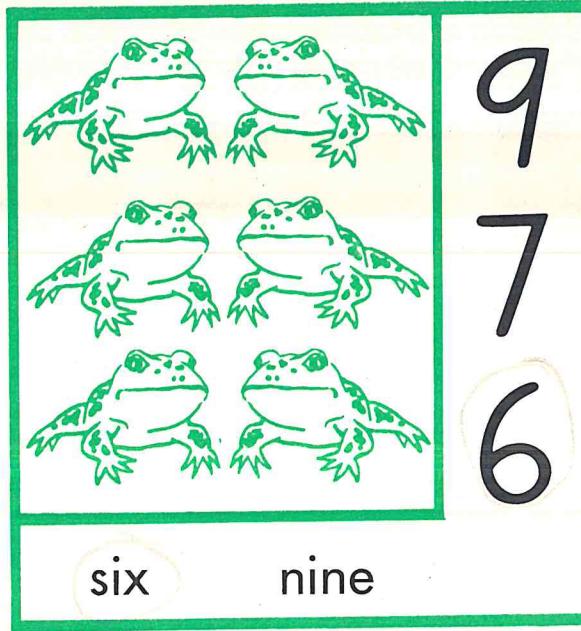
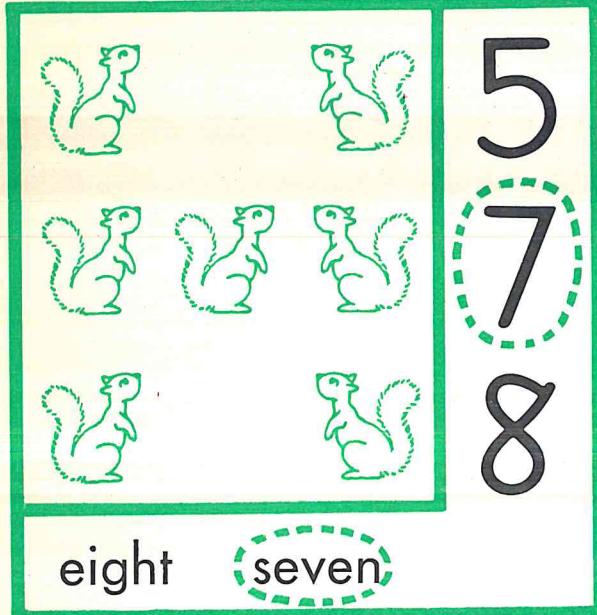
eight 8



6

Draw a line around the number that tells how many.

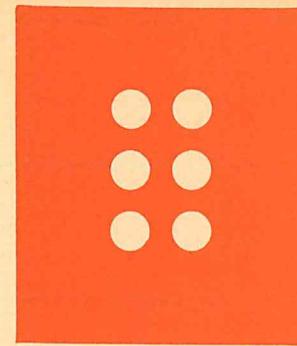
A



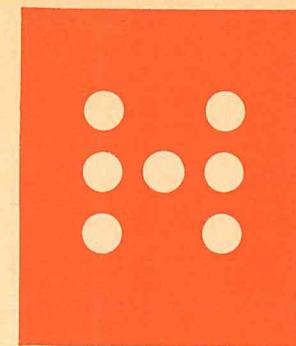
Identifying quantities from 6 to 10 arranged in group patterns.  
Children identify the quantity pictured and circle the matching number symbol beside the picture and the matching number name below the picture.

number symbol beside the picture and the matching number name below the picture.

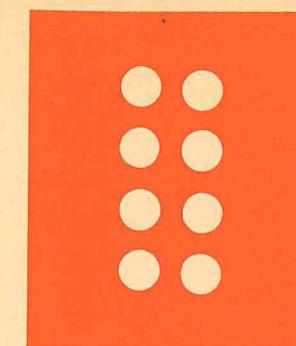
Learning to construct the semi-concrete group patterns for the numbers from 6 to 10. Children first construct groupings with disks. They then draw the disk patterns and write the symbol for the number names below the boxes.



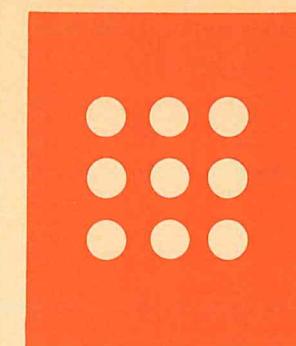
six



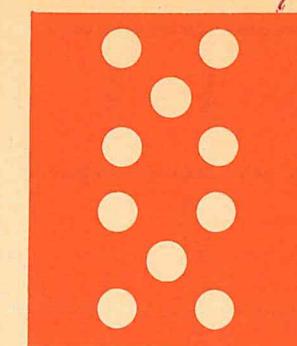
seven



eight

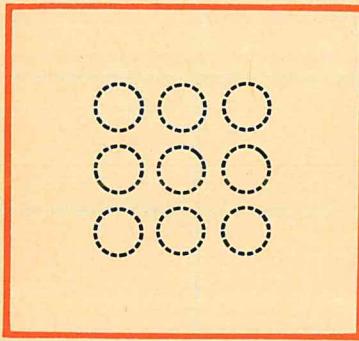


nine

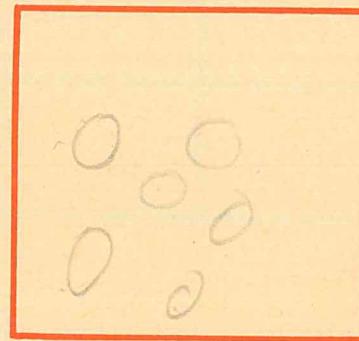


ten

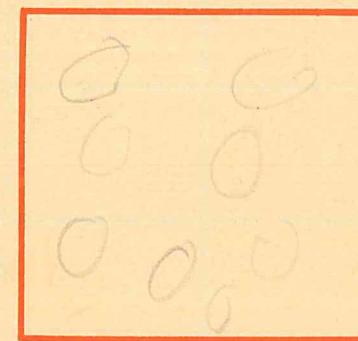
A-  
7



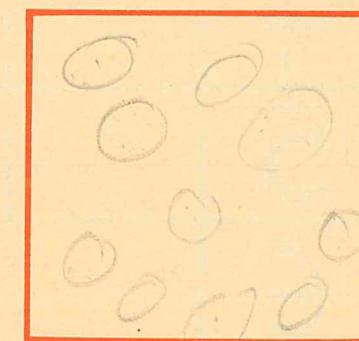
nine 9



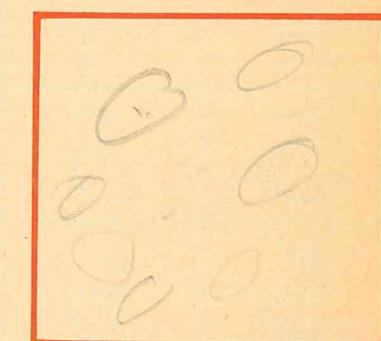
six 6



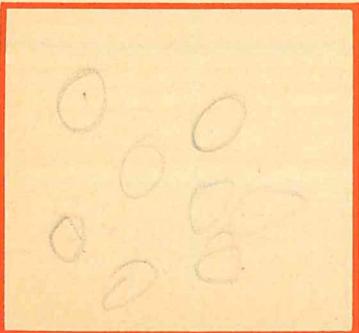
eight 8



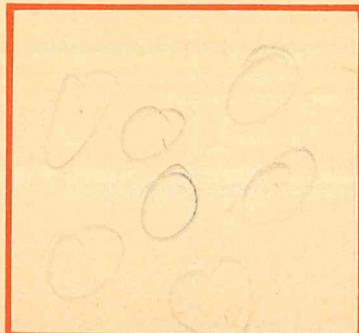
ten 10



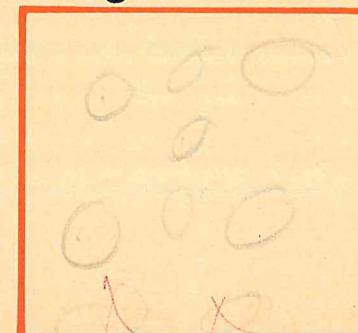
seven 7



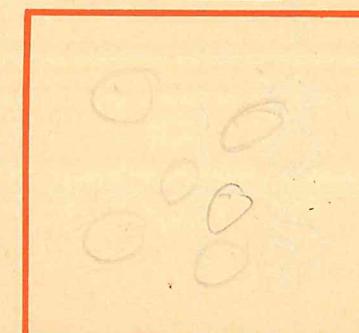
eight 8



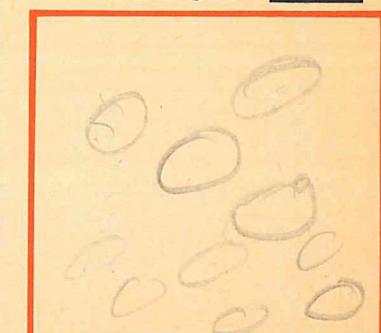
seven 7



nine 9



six 6



ten 10

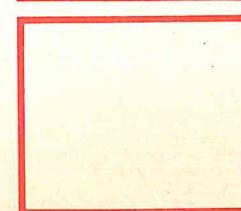
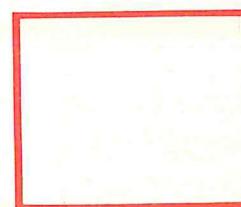
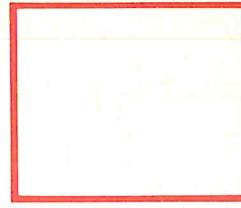
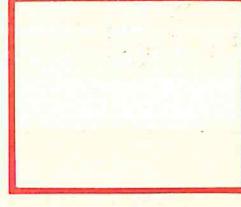
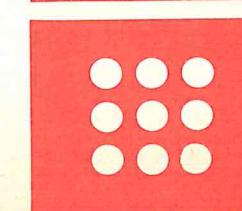
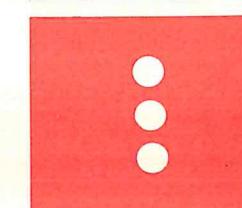
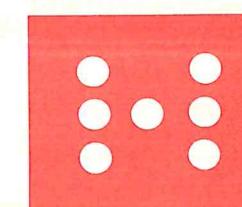
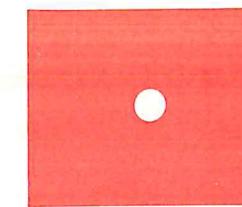
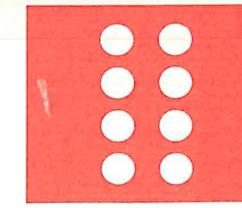
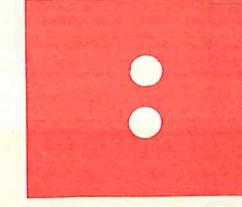
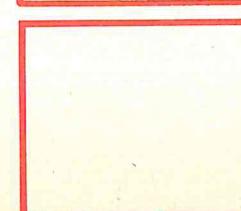
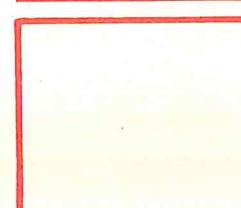
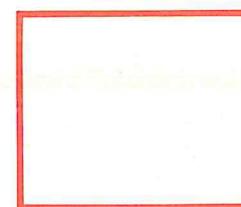
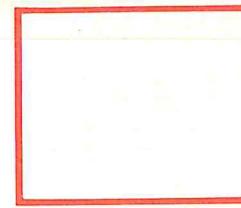
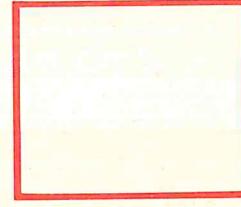
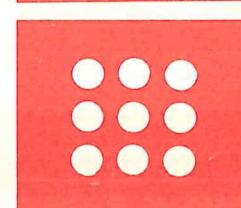
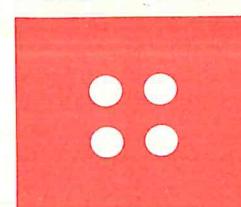
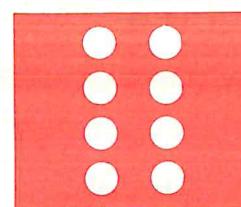
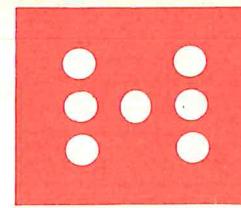
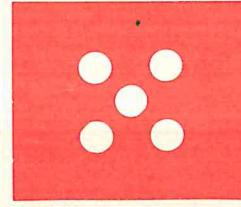
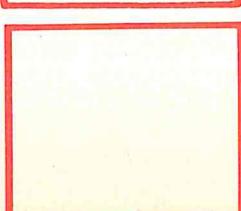
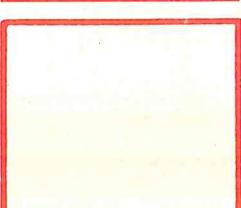
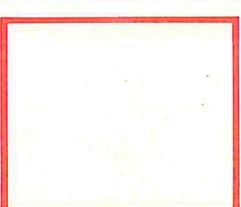
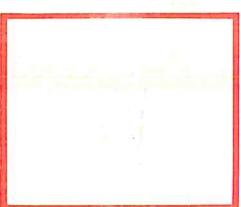
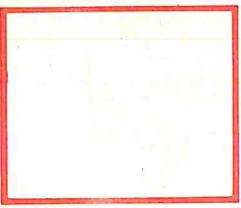
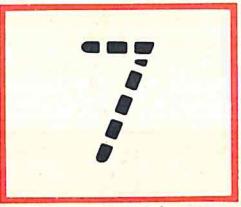
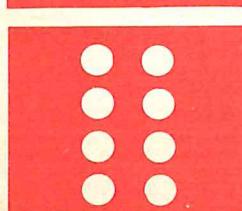
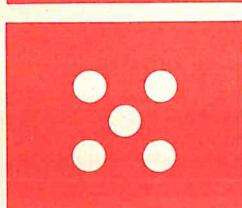
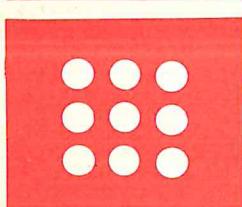
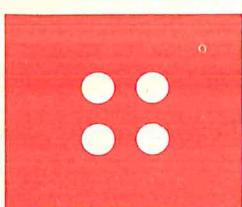
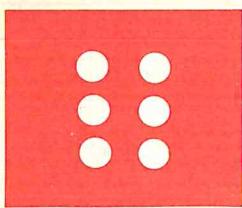
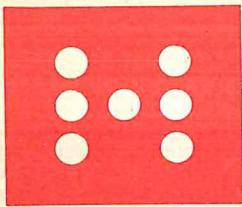


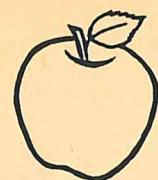
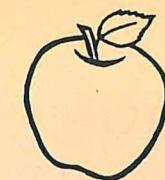
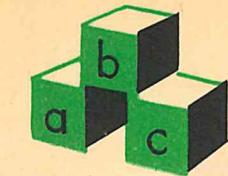
**Correct writing of numbers from 1 to 10.** Call children's attention to the correct starting point as indicated by the small cross

and the broken line. Explain that the correct direction of the stroke is indicated by the direction of the arrow.

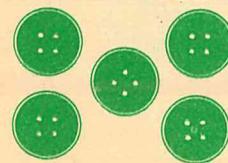
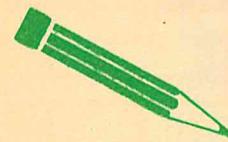
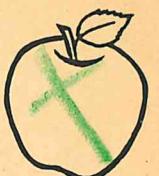
	6	8	7	5	3
	14	54	23	24	42
	06	80	60	6	61
	97	82	38	20	79
	4	\$4.00		\$04	\$40
	\$47		74¢	47	47¢
			five		seventeen
	eight		one half		

Write the number that tells how many.



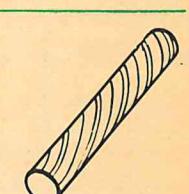
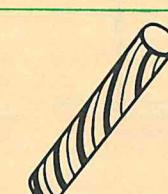
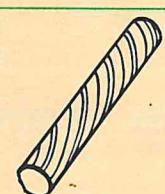
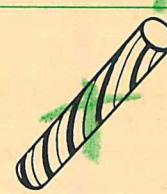
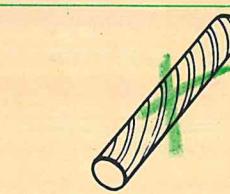


C



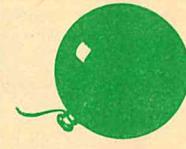
X+X

X+X



~~1~~ 5

birds



~~13~~ 6

cents



~~10~~ 5 cents



~~7~~ 3

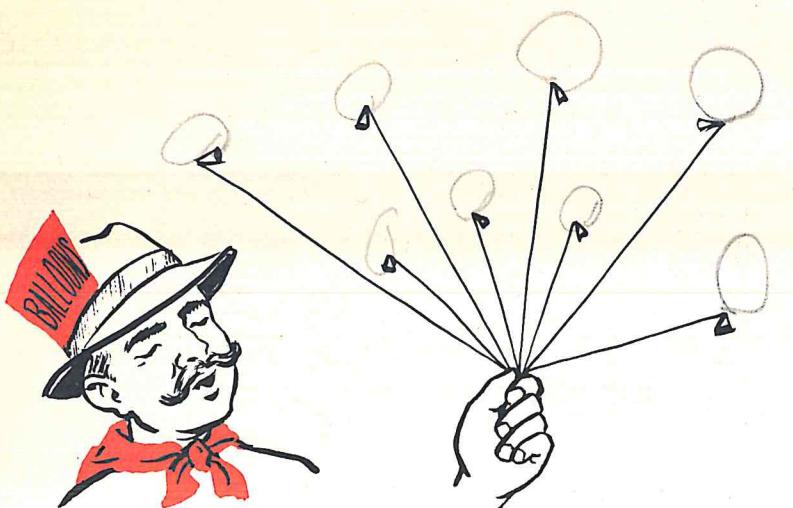
2

cents

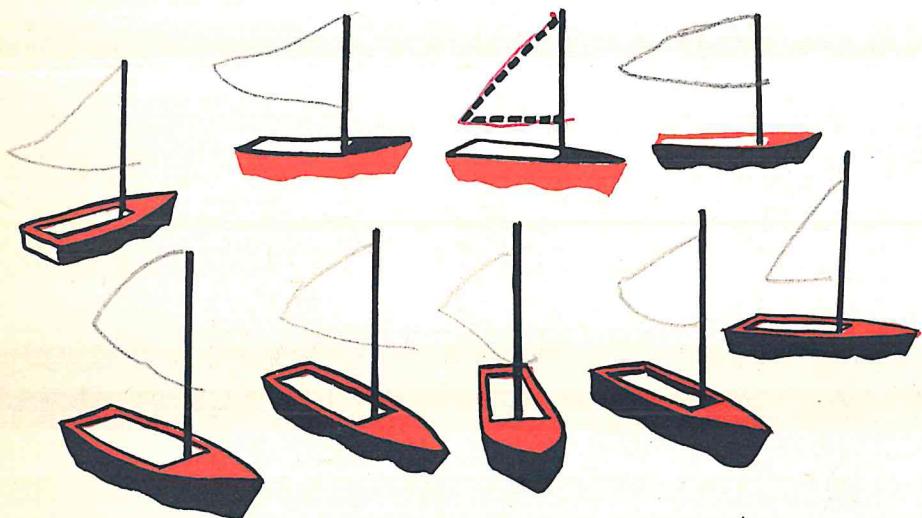


~~2~~ 4

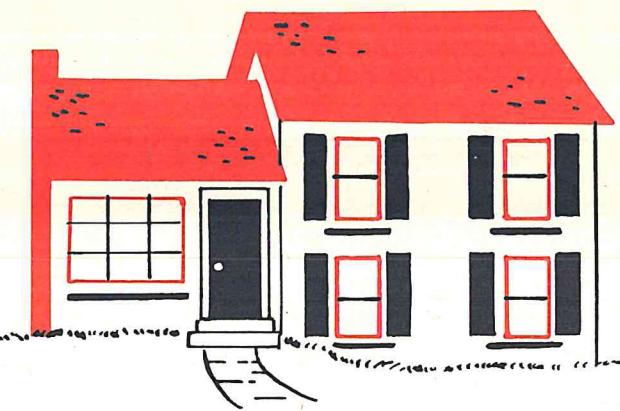
half apples



Draw 8 s in his .



Draw the sails on 9 s.



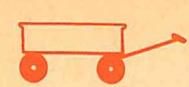
Draw 2 s by the big .



Draw 4 s in the big .

Completing pictures by drawing a specified number of objects in the picture. Children read the directions and draw the number of objects specified.

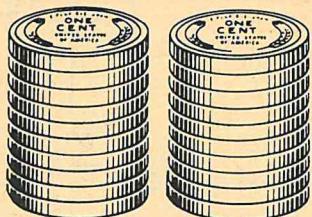
bumber of objects specified.



3 and 2 are 25.



1 and 4 are 5.



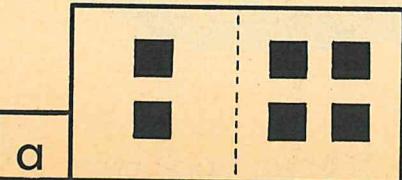
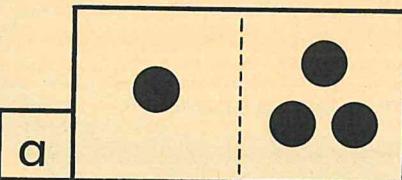
2 tens      3 ones  
23 in all



5 take away 1 = 4



3 take away 2 = 1



3 and 3 are 6.



4 and 2 are 6.

C-



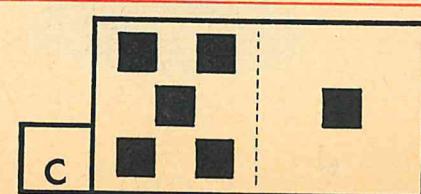
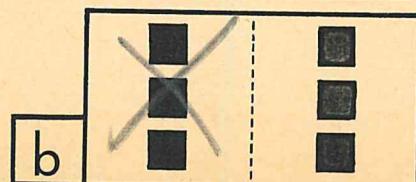
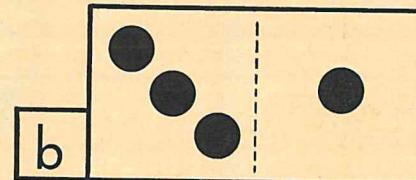
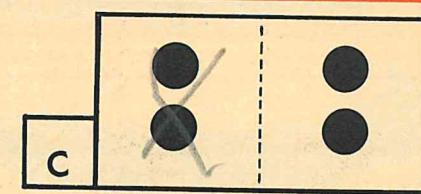
10 cents

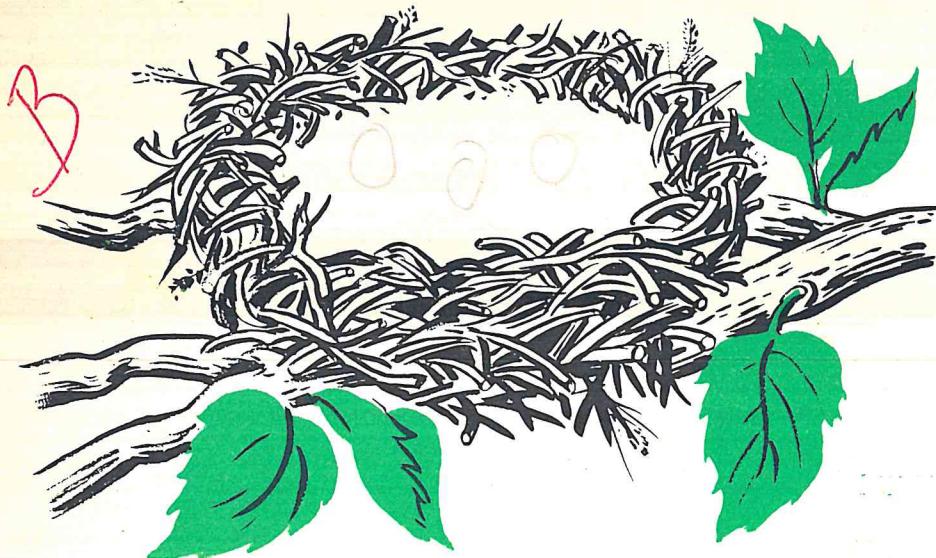


4 take away 3 = 1



2 take away 2 = 0





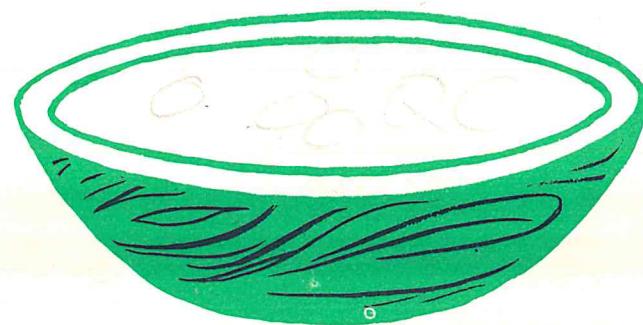
Draw 3 blue Os in the big .



Draw 5 Os in the big .

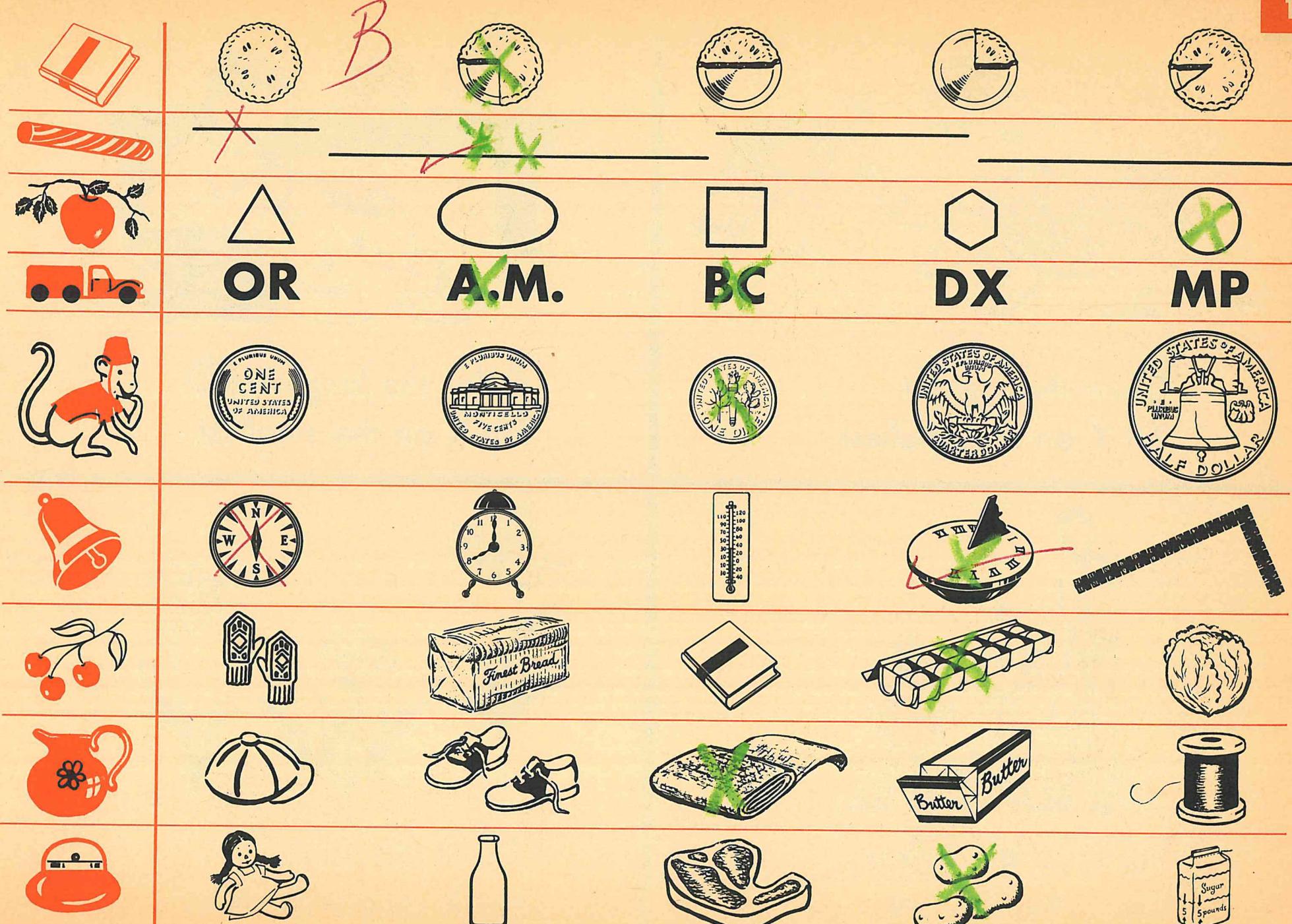


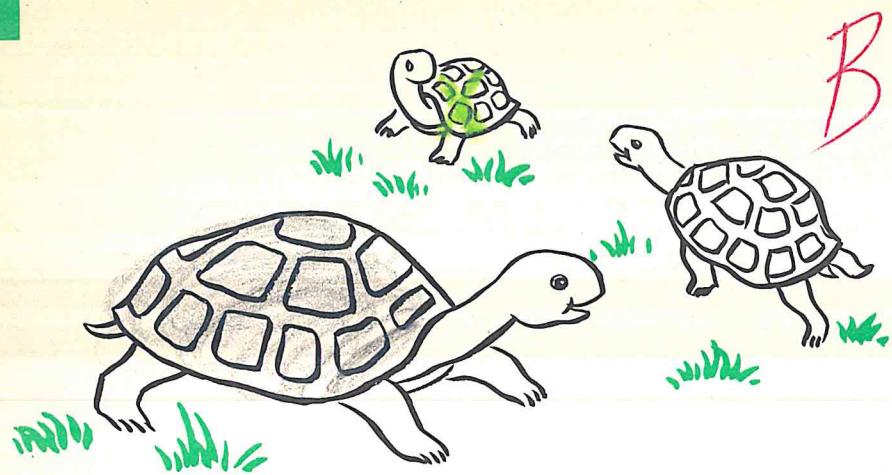
Draw 7 s on the big .



Draw 6 s in the big .

Completing pictures by drawing a specified number of objects in the picture. Children read the directions and draw the number of objects specified.

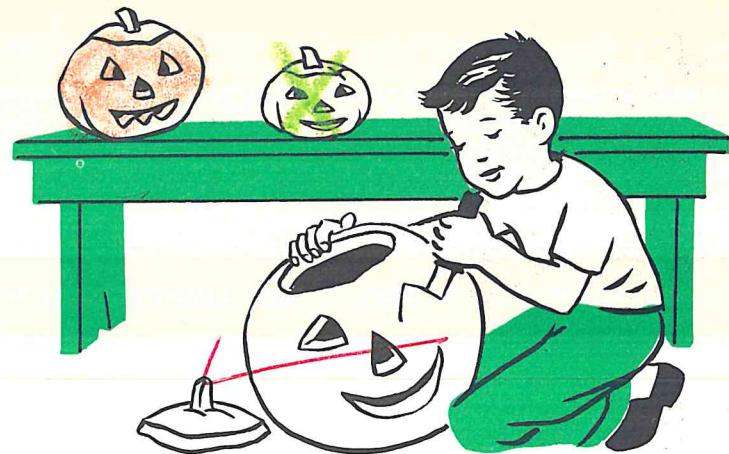




Color the largest.  
Put X on the smallest.



Put X on the tallest.  
Color the shortest.



Color the largest   
Put X on the smallest.

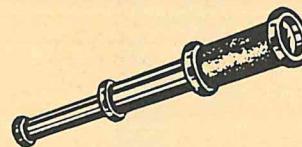
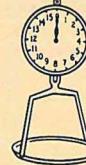
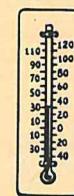
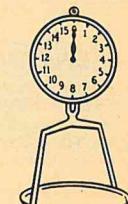
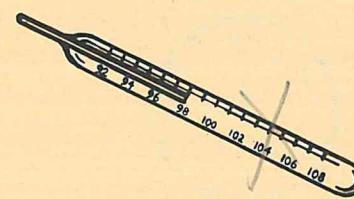
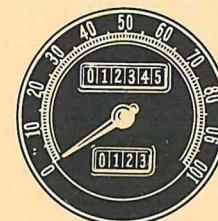
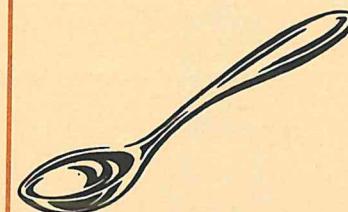
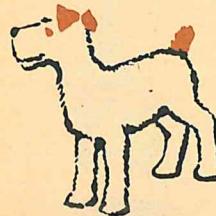
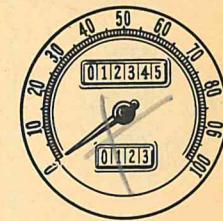
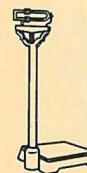
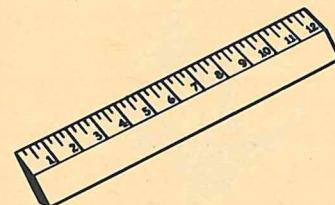
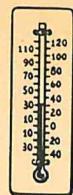
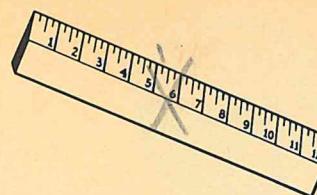


Color the tallest.  
Put X on the shortest.

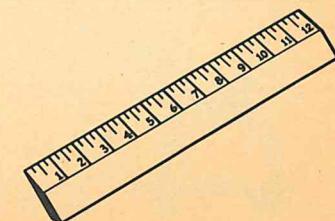
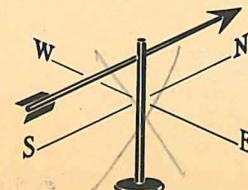
**Terms of comparison:** **largest, smallest, tallest, shortest.** Children talk about the pictures on the page as the teacher writes the key words on the blackboard. Children then carry out the directions.

the key words on the blackboard. Children then carry out the directions.

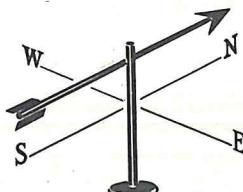
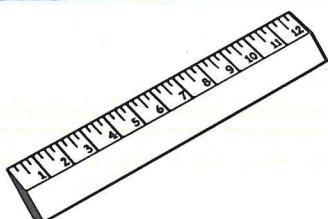
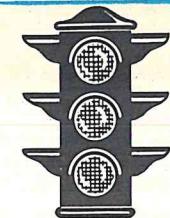
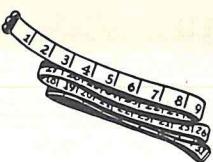
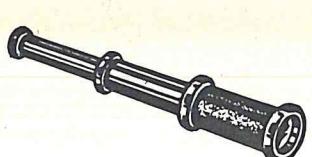
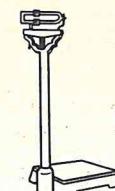
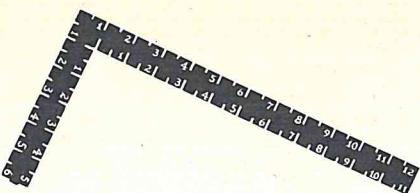
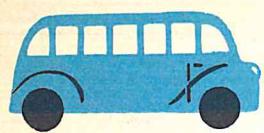
A



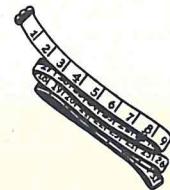
JULY						
S	M	T	W	TH	F	S
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31



A



JULY						
S	M	T	W	TH	F	S
			1	2	3	
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31



in each box, the children underline the word which tells location of the child who has that toy.



first



second



third



fourth



fifth



second  
first  
third



fourth  
fifth  
third



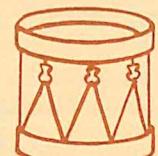
fourth  
second  
third



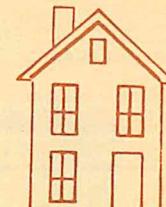
fifth  
third  
fourth



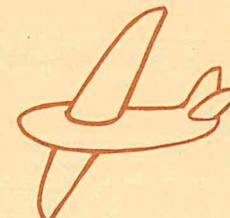
fourth  
third  
second



third  
fourth  
fifth



first  
fifth  
fourth



fourth  
fifth  
first



first  
fourth  
fifth



fifth  
fourth  
first



first  
second  
third



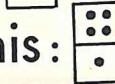
third  
fifth  
fourth

Sally took a sheet of paper. She took 5 disks.

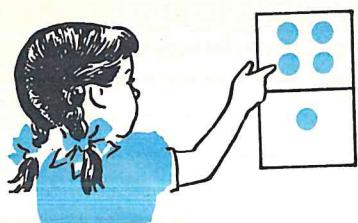
She put 4 disks at the top, like this:



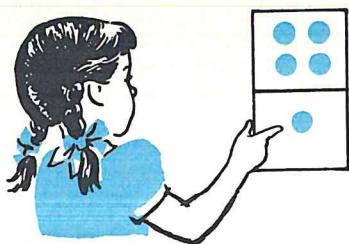
She put 1 disk at the bottom, like this:



Sally will now tell you how she shows a number story.



Point to the 4 disks.  
Say, "4."

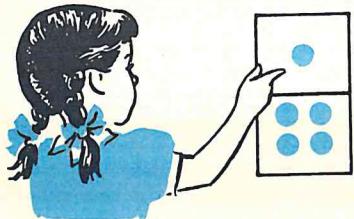


Point to the 1 disk.  
Say, "and 1."

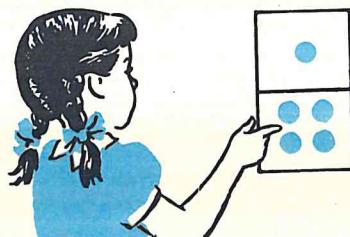


Circle all the disks.  
Say, "are 5."  
Now say, "4 and 1 are 5."

Now slide the paper around so that the 1 disk is at the top.



Point to the 1 disk.  
Say, "1."



Point to the 4 disks.  
Say, "and 4."



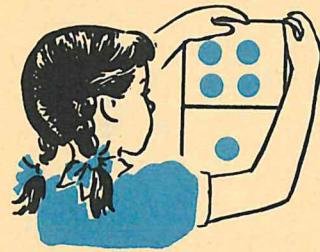
Circle all the disks.  
Say, "are 5."  
Now say, "1 and 4 are 5."

The suggested procedure for showing the meaning of related addition number facts with disks. Each child is supplied with

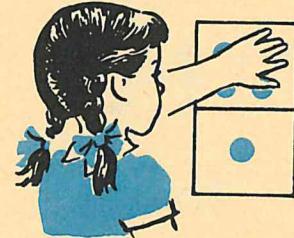
disks and follows each step shown by Sally in the series of pictures. Later lessons follow this procedure.

Sally made a disk picture of 5 with 4 at the top.

She will now tell you how she shows the take-away stories.



Circle all the disks.  
Say, "5."



Cover the 4 disks.  
Say, "take away 4."

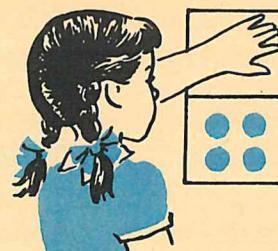


See how many are left.  
Say, "is 1."

---

Now say, "5 take away 4 is 1."

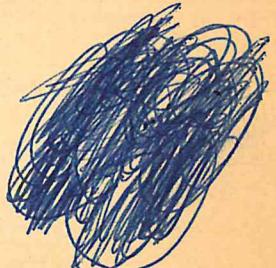
Now slide the paper around so that the 1 disk is at the top.



Circle all the disks.  
Say, "5."

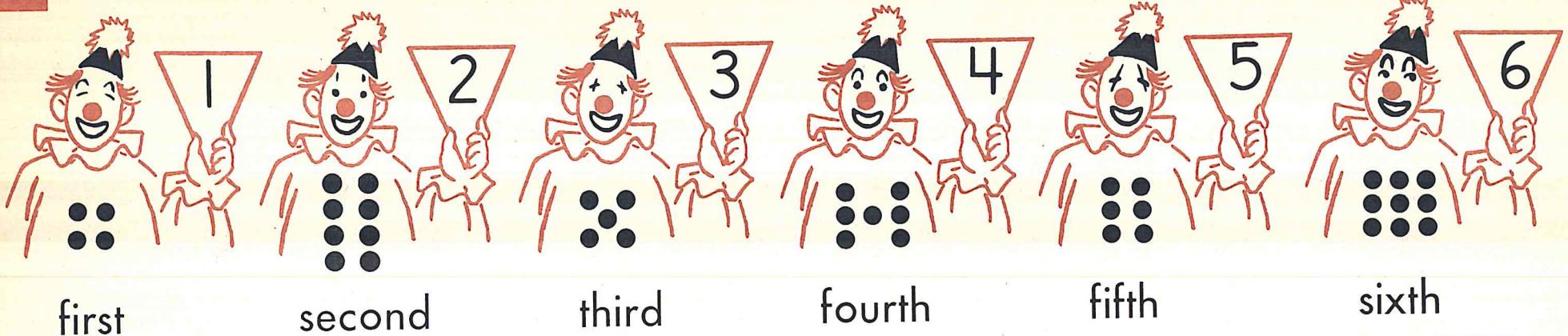


Cover the 1 disk.  
Say, "take away 1."



See how many are left.  
Say, "are 4."

Now say, "5 take away 1 are 4."



Write the number in the hand of:

the first clown   

the third clown    ✓

the fifth clown    5

the second clown    2

the fourth clown    4

the sixth clown    6

two    2

five    5

seven    7

one    1

eight    8

six    6

four    4

three    3

ten    10

nine    9

Further practice on ordinal numbers extended to sixth. Numbers held by the clowns are used in counting. Ordinal names below the clowns are used in location. The buttons on the clowns' suits review the semi-concrete group patterns for numbers. The children write the missing numbers.

Write the number of ●s on the  of:

the third clown    10

the first clown    4

the fourth clown    7

the sixth clown    9

the fifth clown    6

the second clown    8

Visualizing groups of related facts. Following the suggested procedure on pages 20 and 21, children find the answers to the four related groupings in the top row. They do this for each of the three rows. They then write the missing answers.

$$\begin{array}{r} \bullet \quad \bullet \\ \bullet \quad | \quad \bullet \\ + \quad 2 \\ \hline \end{array}$$

✓

C

$$\begin{array}{r} \bullet \quad \bullet \\ \bullet \quad | \quad \bullet \\ + \quad 2 \\ \hline 2 \end{array}$$

$$\begin{array}{r} \times \quad \times \\ \bullet \quad | \quad \bullet \\ - \quad 3 \\ \hline 1 \end{array}$$

$$\begin{array}{r} \times \quad \times \\ \bullet \quad | \quad \bullet \\ - \quad 3 \\ \hline 2 \end{array}$$

$$\begin{array}{r} \square \quad \square \quad \square \\ \square \quad | \quad \square \quad \square \\ + \quad - \quad 3 \\ \hline \end{array}$$

✓

$$\begin{array}{r} \square \quad \square \quad \square \\ \square \quad | \quad \square \quad \square \\ + \quad 3 \quad - \\ \hline 3 \end{array}$$

$$\begin{array}{r} \times \quad \times \\ \square \quad | \quad \square \quad \square \\ - \quad 3 \quad 4 \\ \hline 1 \end{array}$$

$$\begin{array}{r} \times \quad \times \\ \square \quad | \quad \square \quad \square \\ - \quad 3 \quad 4 \\ \hline 3 \end{array}$$

$$\begin{array}{r} \triangle \quad \triangle \\ \triangle \quad | \quad \triangle \quad \triangle \\ + \quad - \quad - \\ \hline \end{array}$$

✓

$$\begin{array}{r} \times \quad \times \\ \triangle \quad | \quad \triangle \quad \triangle \\ - \quad 2 \quad - \\ \hline \end{array}$$

$$\begin{array}{r} \triangle \quad \triangle \\ \triangle \quad | \quad \triangle \quad \triangle \\ + \quad 2 \quad 2 \\ \hline 2 \end{array}$$

✓

$$\begin{array}{r} \times \quad \times \\ \triangle \quad \triangle \quad \triangle \\ - \quad 2 \quad 4 \\ \hline 2 \end{array}$$

## How Many Are There in All?

$$\begin{array}{r} 1 \\ + 1 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 1 \\ + 2 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 2 \\ + 1 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 2 \\ + 2 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 1 \\ + 3 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 3 \\ + 1 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 2 \\ + 1 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 1 \\ + 1 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 1 \\ + 3 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 1 \\ + 2 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 3 \\ + 1 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 2 \\ + 2 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 1 \\ + 1 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 2 \\ + 1 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 1 \\ + 3 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 1 \\ + 2 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 3 \\ + 1 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 3 \\ + 1 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 1 \\ + 3 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 1 \\ + 2 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 2 \\ + 2 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 1 \\ + 1 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 3 \\ + 1 \\ \hline 4 \end{array}$$

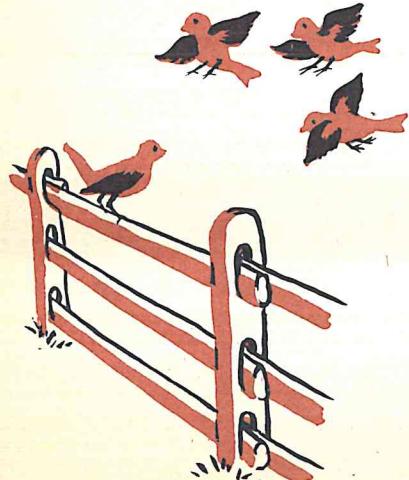
$$\begin{array}{r} 2 \\ + 1 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 2 \\ + 2 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 1 \\ + 1 \\ \hline 2 \end{array}$$

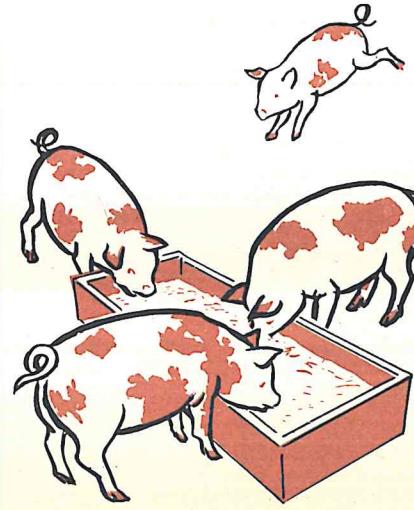
$$\begin{array}{r} 1 \\ + 2 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 2 \\ + 1 \\ \hline 3 \end{array}$$



4 s come.

4 s in all



4 s at the trough comes.

4 s in all

Visualizing the meaning of subtraction number facts through the 4's. Number in all above each box emphasizes that subtraction begins with the total. Children see the incorrect example and use the picture to find the missing number.

4 in all

$$\begin{array}{r} 2 \\ - 2 \\ \hline 0 \end{array}$$

3 in all

$$\begin{array}{r} 3 \\ - 1 \\ \hline 2 \end{array}$$

2 in all

C

$$\begin{array}{r} 2 \\ - 1 \\ \hline 1 \end{array}$$

3 in all

$$\begin{array}{r} 3 \\ - 2 \\ \hline 1 \end{array}$$

3 in all

$$\begin{array}{r} 3 \\ - 2 \\ \hline 1 \end{array}$$

1 in all

$$\begin{array}{r} 1 \\ - 1 \\ \hline 0 \end{array}$$

2 in all

$$\begin{array}{r} 2 \\ - 1 \\ \hline 1 \end{array}$$

4 in all

$$\begin{array}{r} 4 \\ - 3 \\ \hline 1 \end{array}$$

4 in all

$$\begin{array}{r} 4 \\ - 3 \\ \hline 1 \end{array}$$

4 in all

$$\begin{array}{r} 4 \\ - 2 \\ \hline 2 \end{array}$$

4 in all

$$\begin{array}{r} 4 \\ - 2 \\ \hline 2 \end{array}$$

3 in all

$$\begin{array}{r} 3 \\ - 2 \\ \hline 1 \end{array}$$

## How Many Are Left?

$\begin{array}{r} 1 \\ - 1 \\ \hline 0 \end{array}$	$\begin{array}{r} 2 \\ - 1 \\ \hline 1 \end{array}$	$\begin{array}{r} 2 \\ - 2 \\ \hline 0 \end{array}$	$\begin{array}{r} 3 \\ - 1 \\ \hline 2 \end{array}$	$\begin{array}{r} 3 \\ - 2 \\ \hline 1 \end{array}$	$\begin{array}{r} 3 \\ - 3 \\ \hline 0 \end{array}$	$\begin{array}{r} 4 \\ - 1 \\ \hline 3 \end{array}$	$\begin{array}{r} 4 \\ - 2 \\ \hline 2 \end{array}$	$\begin{array}{r} 4 \\ - 3 \\ \hline 1 \end{array}$	$\begin{array}{r} 4 \\ - 4 \\ \hline 0 \end{array}$
---	---	---	---	---	---	---	---	---	---

A

$\begin{array}{r} 4 \\ - 1 \\ \hline 3 \end{array}$	$\begin{array}{r} 3 \\ - 1 \\ \hline 2 \end{array}$	$\begin{array}{r} 4 \\ - 2 \\ \hline 2 \end{array}$	$\begin{array}{r} 4 \\ - 3 \\ \hline 1 \end{array}$	$\begin{array}{r} 2 \\ - 1 \\ \hline 1 \end{array}$	$\begin{array}{r} 3 \\ - 2 \\ \hline 1 \end{array}$	$\begin{array}{r} 4 \\ - 2 \\ \hline 2 \end{array}$	$\begin{array}{r} 3 \\ - 1 \\ \hline 2 \end{array}$	$\begin{array}{r} 2 \\ - 1 \\ \hline 1 \end{array}$	$\begin{array}{r} 1 \\ - 1 \\ \hline 0 \end{array}$
$\begin{array}{r} 3 \\ - 2 \\ \hline 1 \end{array}$	$\begin{array}{r} 2 \\ - 1 \\ \hline 1 \end{array}$	$\begin{array}{r} 4 \\ - 1 \\ \hline 3 \end{array}$	$\begin{array}{r} 3 \\ - 2 \\ \hline 1 \end{array}$	$\begin{array}{r} 4 \\ - 4 \\ \hline 0 \end{array}$	$\begin{array}{r} 0 \\ - 0 \\ \hline 0 \end{array}$	$\begin{array}{r} 2 \\ - 1 \\ \hline 1 \end{array}$	$\begin{array}{r} 4 \\ - 3 \\ \hline 1 \end{array}$	$\begin{array}{r} 4 \\ - 4 \\ \hline 0 \end{array}$	$\begin{array}{r} 4 \\ - 3 \\ \hline 1 \end{array}$



There were 4 s

on the .

Jack takes 2 s.2 s are left.

There were 4 s

in the .

Jim takes 1 .3 s are left.

Testing number facts in subtraction through the 4's. Children cover the box giving the facts with the answers and refer to them only when they need to. This lesson can be used for oral responses in class before the page is given as a written test.

Visualizing groups of related facts. Following the suggested procedure on pages 20 and 21, the children find the answers to the four related groupings in the top row. They do this for

the next row. The last row shows zero as a remainder. Then they write the missing answers.

$$\begin{array}{r} + \\ \hline 7 \end{array}$$

$$\begin{array}{r} + \\ \hline 5 \end{array}$$

$$\begin{array}{r} - \\ \hline 4 \end{array}$$

$$\begin{array}{r} - \\ \hline 4 \end{array}$$

$$\begin{array}{r} + \\ \hline 2 \end{array}$$

$$\begin{array}{r} + \\ \hline 3 \end{array}$$

$$\begin{array}{r} - \\ \hline 3 \end{array}$$

$$\begin{array}{r} - \\ \hline 2 \end{array}$$

$$\begin{array}{r} - \\ \hline 2 \end{array}$$

$$\begin{array}{r} - \\ \hline 3 \end{array}$$

$$\begin{array}{r} - \\ \hline 4 \end{array}$$

$$\begin{array}{r} - \\ \hline 5 \end{array}$$

$$\begin{array}{r}
 32 \\
 + \\
 \hline
 50
 \end{array}$$

$$\begin{array}{r}
 4 \\
 + \\
 \hline
 7
 \end{array}$$

$$\begin{array}{r}
 23 \\
 + \\
 \hline
 7
 \end{array}$$

$$\begin{array}{r}
 0 \\
 + \\
 \hline
 8
 \end{array}$$

$$\begin{array}{r}
 4 \\
 + \\
 \hline
 7
 \end{array}$$

$$\begin{array}{r}
 32 \\
 + \\
 \hline
 50
 \end{array}$$

$$\begin{array}{r}
 6 \\
 + \\
 \hline
 7
 \end{array}$$

$$\begin{array}{r}
 23 \\
 + \\
 \hline
 50
 \end{array}$$

$$\begin{array}{r}
 32 \\
 + \\
 \hline
 5
 \end{array}$$

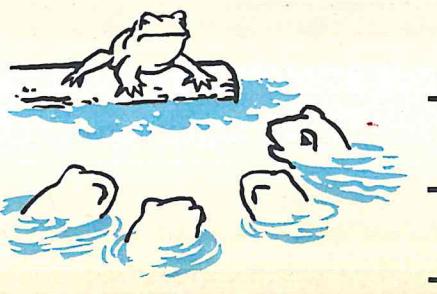
$$\begin{array}{r}
 22 \\
 + \\
 \hline
 5
 \end{array}$$

$$\begin{array}{r}
 41 \\
 + \\
 \hline
 3
 \end{array}$$

$$\begin{array}{r}
 14 \\
 + \\
 \hline
 5
 \end{array}$$



3  
 2  
 3  
 s in the o  
 s come.  
 s in all



4  
 3  
 4  
 on the o  
 s in the water  
 s in all

Drawing disk pictures to show the meaning of addition number facts for the 5's. Children lay disks to show the fact. They

then draw disks or squares to show the fact. Below each example they write the sum.

## How Many Are There in All?

$$\begin{array}{r} 4 \\ + 1 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 1 \\ + 4 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 3 \\ + 2 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 2 \\ + 3 \\ \hline 5 \end{array}$$

D

$$\begin{array}{r} 4 \\ + 1 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 1 \\ + 1 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 1 \\ + 3 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 3 \\ + 2 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 1 \\ + 2 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 1 \\ + 4 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 2 \\ + 1 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 2 \\ + 3 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 3 \\ + 1 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 2 \\ + 2 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 1 \\ + 2 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 3 \\ + 1 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 2 \\ + 3 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 2 \\ + 2 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 1 \\ + 4 \\ \hline \checkmark \end{array}$$

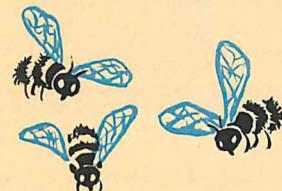
$$\begin{array}{r} 3 \\ + 2 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 1 \\ + 1 \\ \hline \checkmark \end{array}$$

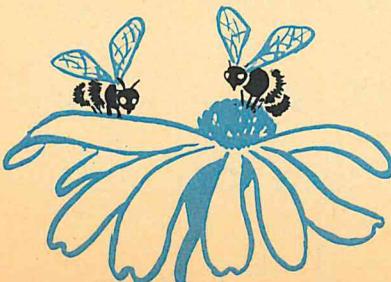
$$\begin{array}{r} 4 \\ + 1 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 2 \\ + 3 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 2 \\ + 1 \\ \hline \checkmark \end{array}$$



2 bee's on the flower.

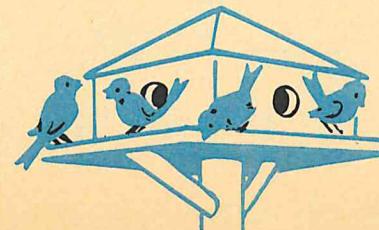


3 bee's come.

5 bee's in all



4 bird's by the house.



5 bird's comes.

4 bird's in all

4 in all

	<b>4</b>	$- 3$	$\underline{\quad}$

5 in all

	<b>5</b>	$-$	$\underline{\quad}$

5 in all

	<b>5</b>	$-$	$\underline{3}$

4 in all

	<b>4</b>	$-$	$\underline{2}$

5 in all

	<b>5</b>	$-$	$\underline{4}$

5 in all

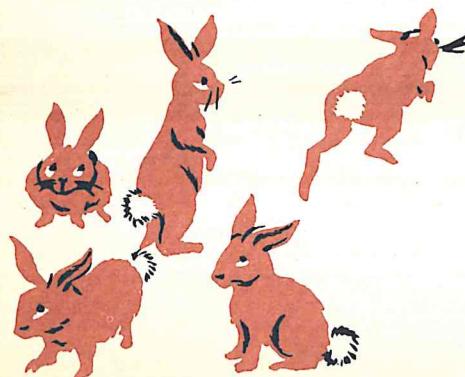
	<b>5</b>	$-$	$\underline{0}$

4 in all

	<b>4</b>	$-$	$\underline{1}$

5 in all

	<b>5</b>	$-$	$\underline{2}$



There were 5 s.

See 1 rabbit go.4 s are left.

$$5 - 1 = \underline{4}$$



There were 5 s.

Away go 2 s.3 s are left.

$$5 - 3 = \underline{2}$$

Visualizing the meaning of subtraction number facts through the 5's. Number in all above each box emphasizes that subtraction begins with the total. Children use the pictures to cover the missing numbers to write for each example.

traction begins with the total. Children use the pictures to cover the missing numbers to write for each example.

## How Many Are Left?

C

$$\begin{array}{r} 5 \\ - 1 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 5 \\ - 4 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 5 \\ - 2 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 5 \\ - 3 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 5 \\ - 5 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 5 \\ - 3 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 5 \\ - 4 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 3 \\ - 1 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 5 \\ - 2 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 5 \\ - 5 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 4 \\ - 1 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 2 \\ - 1 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 5 \\ - 3 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 5 \\ - 2 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 5 \\ - 5 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 5 \\ - 1 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 4 \\ - 2 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 4 \\ - 1 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 5 \\ - 4 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 3 \\ - 1 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 5 \\ - 2 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 5 \\ - 4 \\ \hline 1 \end{array}$$



The had 5 s.

Jane gets 2 s.

The has 3 s left.



There were 5 s  
on the .

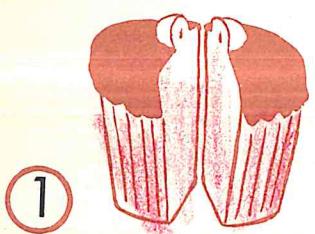
A pulls off 2 s.

3 s are left  
on the .

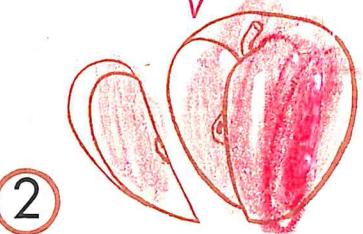
C



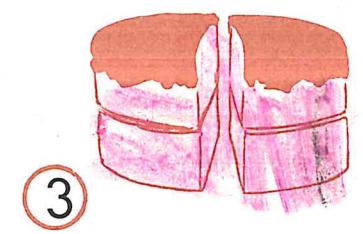
Color each picture of something cut in half.



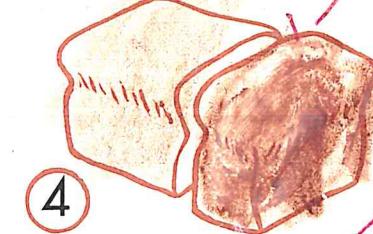
1



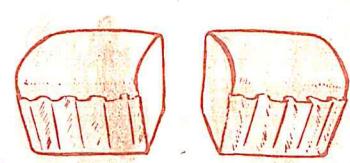
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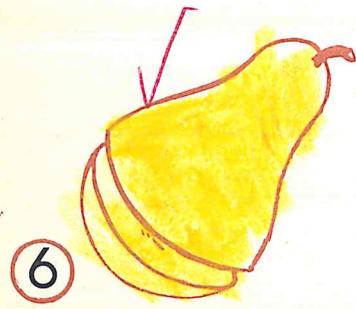
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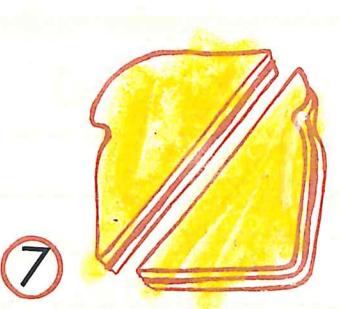
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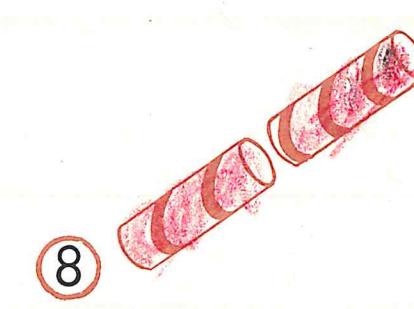
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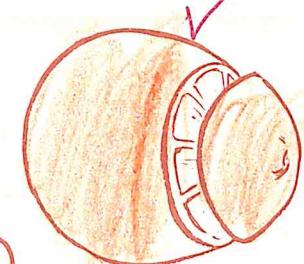
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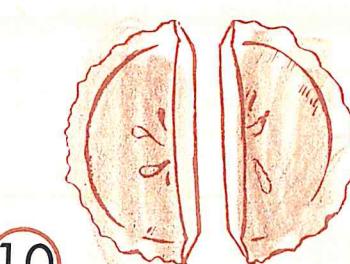
7



8

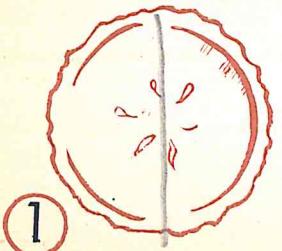


9

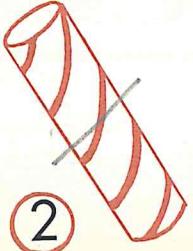


10

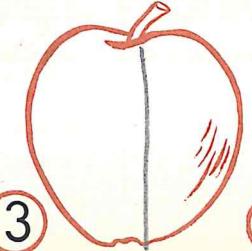
Draw a line to show each cut in half.



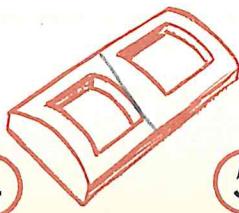
1



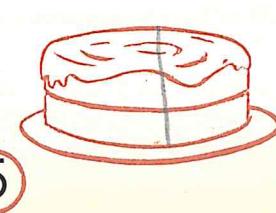
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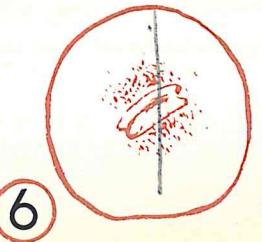
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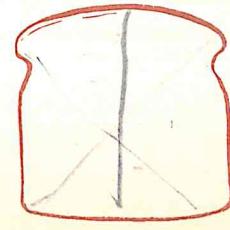
4



5



6

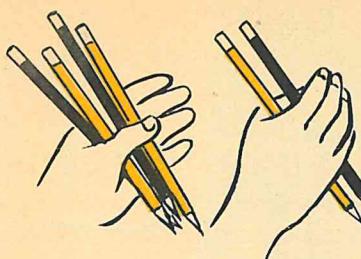


7

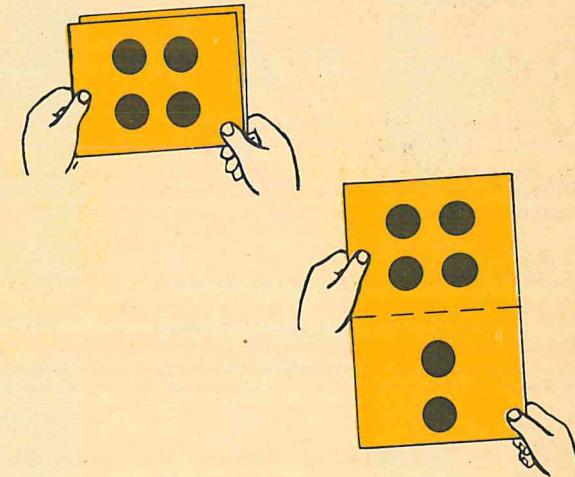
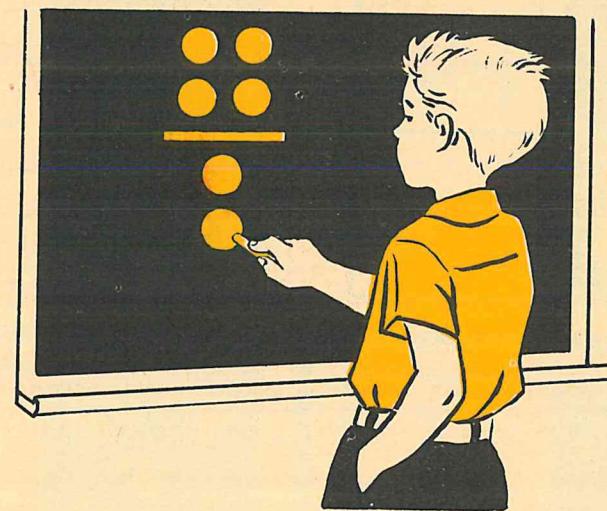
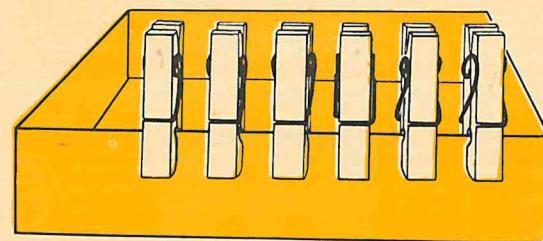
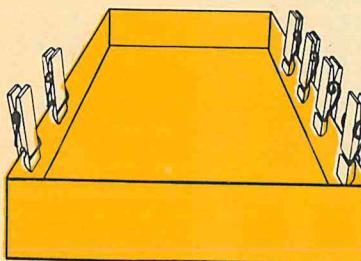
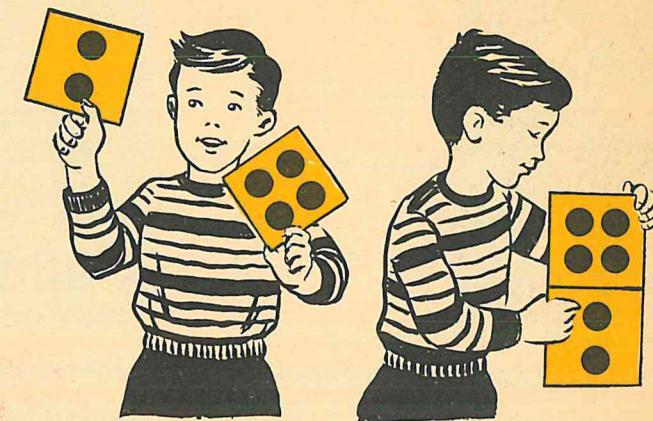
Teaching half of a whole. This lesson shows that we start with one whole object. We divide it into two equal parts. Children

first identify halves. In the bottom row they draw a line to show each object divided in half.

## Ways to Show Adding



D



Choose a number story below. Choose one of these ways to show it.

$$\begin{array}{r} 5 \\ + 1 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ + 2 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ + 1 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ + 2 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ + 3 \\ \hline \end{array}$$

$5 + 1 = 6$

~~8~~

$- 5$

$6 - 1 = 5$

~~6~~

$6 - 1 = 5$

$6 - 1 = 5$

$4 + 2 = 6$

$2 + 4 = 6$

~~6~~

$6 - 4 = 2$

~~6~~

$6 - 4 = 2$

$3 + 3 = 6$

$6 - 3 = 3$

~~6~~

$6 - 3 = 3$

~~6~~

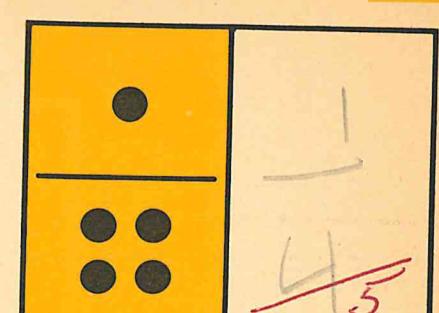
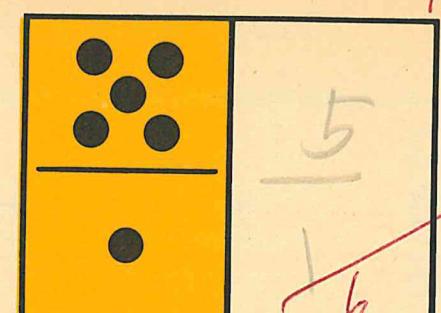
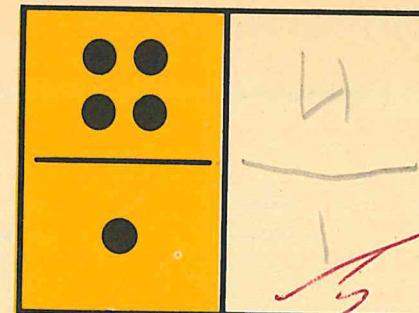
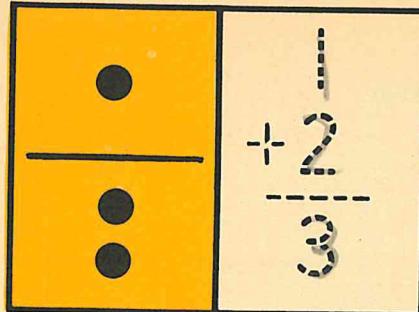
$6 - 3 = 3$

Visualizing groups of related facts. Following the suggested procedure on pages 20 and 21, children find the answers to

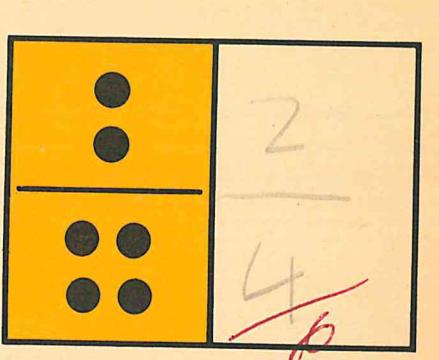
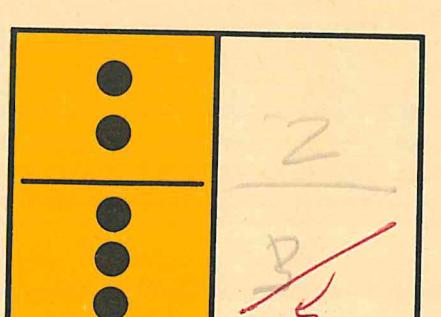
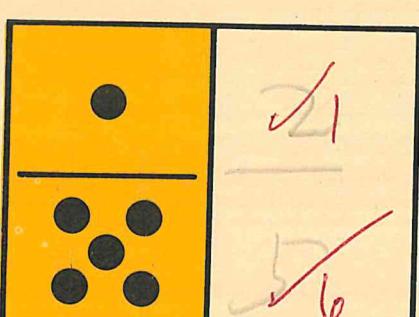
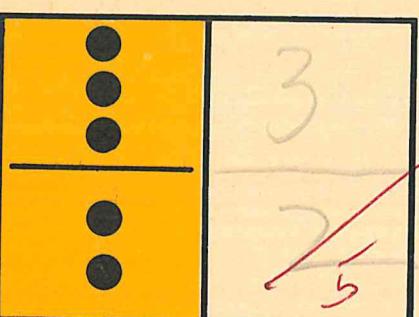
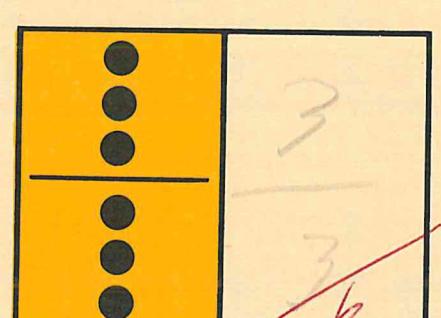
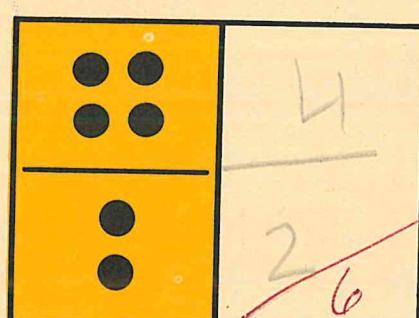
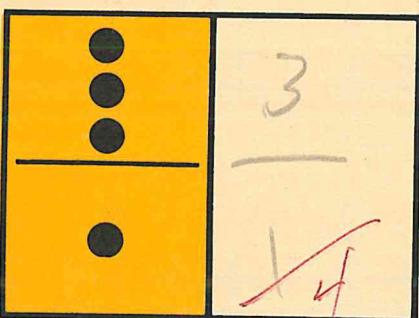
the four related groupings in the top two rows. The last row shows zero as a remainder. Children write the answers.

in each picture and write the complete number fact beside the picture.

Visualizing the meaning of addition number facts through the 6's. The children determine the addition number fact shown



17



$$\begin{array}{r} + \\ \hline 1 & 3 \\ \hline 2 & 5 \end{array}$$

$$\begin{array}{r} + \\ \hline 2 & 2 \\ \hline 0 & 4 \end{array}$$

$$\begin{array}{r} + \\ \hline 3 & 1 \\ \hline 6 & 3 \end{array}$$

$$\begin{array}{r} + \\ \hline 1 & 5 \\ \hline 2 & 7 \end{array}$$

$$\begin{array}{r} + \\ \hline 1 & 5 \\ \hline 6 & 4 \end{array}$$

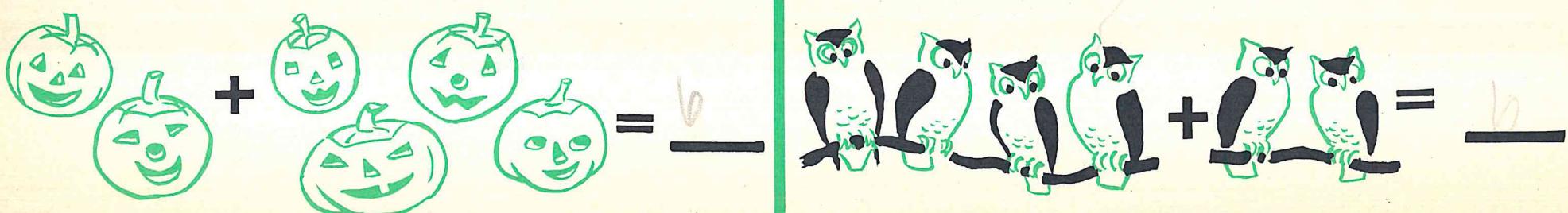
$$\begin{array}{r} + \\ \hline 2 & 4 \\ \hline 4 & 6 \end{array}$$

## How Many Are There in All?

15

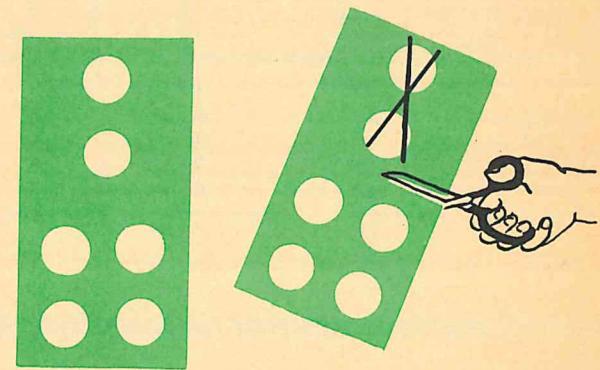
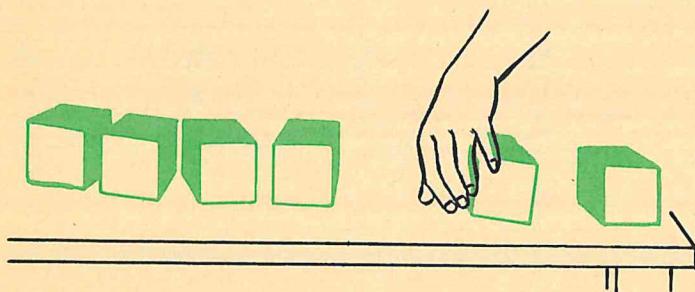
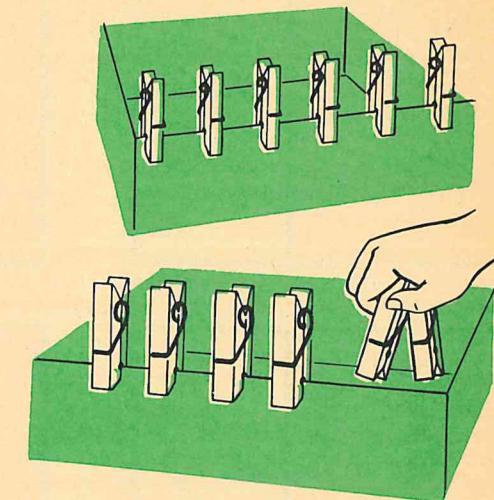
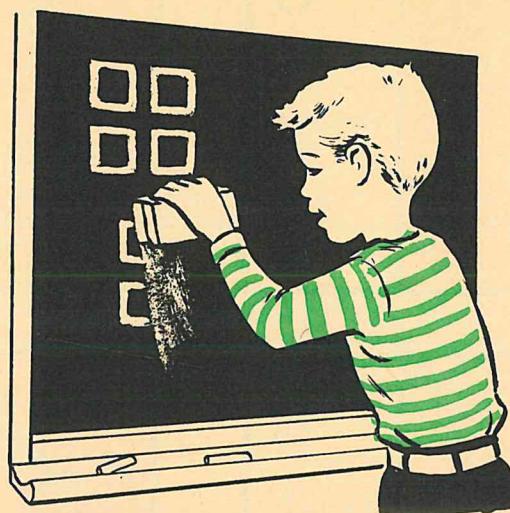
$\begin{array}{r} 3 \\ + 3 \\ \hline 6 \end{array}$	$\begin{array}{r} 5 \\ + 1 \\ \hline 6 \end{array}$	$\begin{array}{r} 1 \\ + 5 \\ \hline 6 \end{array}$	$\begin{array}{r} 4 \\ + 2 \\ \hline 6 \end{array}$	$\begin{array}{r} 2 \\ + 4 \\ \hline 6 \end{array}$
---	---	---	---	---

$\begin{array}{r} 1 \\ + 5 \\ \hline 6 \end{array}$	$\begin{array}{r} 4 \\ + 1 \\ \hline 5 \end{array}$	$\begin{array}{r} 3 \\ + 2 \\ \hline 5 \end{array}$	$\begin{array}{r} 2 \\ + 4 \\ \hline 6 \end{array}$	$\begin{array}{r} 2 \\ + 2 \\ \hline 4 \end{array}$	$\begin{array}{r} 4 \\ + 2 \\ \hline 6 \end{array}$	$\begin{array}{r} 5 \\ + 1 \\ \hline 6 \end{array}$	$\begin{array}{r} 2 \\ + 4 \\ \hline 6 \end{array}$	$\begin{array}{r} 3 \\ + 1 \\ \hline 4 \end{array}$	$\begin{array}{r} 1 \\ + 2 \\ \hline 3 \end{array}$	$\begin{array}{r} 5 \\ + 1 \\ \hline 6 \end{array}$
$\begin{array}{r} 3 \\ + 3 \\ \hline 6 \end{array}$	$\begin{array}{r} 3 \\ + 1 \\ \hline 4 \end{array}$	$\begin{array}{r} 2 \\ + 2 \\ \hline 4 \end{array}$	$\begin{array}{r} 1 \\ + 1 \\ \hline 2 \end{array}$	$\begin{array}{r} 2 \\ + 4 \\ \hline 6 \end{array}$	$\begin{array}{r} 1 \\ + 3 \\ \hline 4 \end{array}$	$\begin{array}{r} 5 \\ + 1 \\ \hline 6 \end{array}$	$\begin{array}{r} 3 \\ + 2 \\ \hline 5 \end{array}$	$\begin{array}{r} 1 \\ + 4 \\ \hline 5 \end{array}$	$\begin{array}{r} 4 \\ + 2 \\ \hline 6 \end{array}$	$\begin{array}{r} 1 \\ + 5 \\ \hline 6 \end{array}$
$\begin{array}{r} 3 \\ + 3 \\ \hline 6 \end{array}$	$\begin{array}{r} 2 \\ + 3 \\ \hline 5 \end{array}$	$\begin{array}{r} 1 \\ + 5 \\ \hline 6 \end{array}$	$\begin{array}{r} 3 \\ + 3 \\ \hline 6 \end{array}$	$\begin{array}{r} 2 \\ + 1 \\ \hline 3 \end{array}$	$\begin{array}{r} 1 \\ + 5 \\ \hline 6 \end{array}$	$\begin{array}{r} 4 \\ + 2 \\ \hline 6 \end{array}$	$\begin{array}{r} 3 \\ + 3 \\ \hline 6 \end{array}$	$\begin{array}{r} 1 \\ + 4 \\ \hline 5 \end{array}$	$\begin{array}{r} 4 \\ + 2 \\ \hline 6 \end{array}$	$\begin{array}{r} 1 \\ + 5 \\ \hline 6 \end{array}$
$\begin{array}{r} 1 \\ + 4 \\ \hline 5 \end{array}$	$\begin{array}{r} 3 \\ + 3 \\ \hline 6 \end{array}$	$\begin{array}{r} 5 \\ + 1 \\ \hline 6 \end{array}$	$\begin{array}{r} 2 \\ + 3 \\ \hline 5 \end{array}$	$\begin{array}{r} 2 \\ + 1 \\ \hline 3 \end{array}$	$\begin{array}{r} 2 \\ + 4 \\ \hline 6 \end{array}$	$\begin{array}{r} 1 \\ + 5 \\ \hline 6 \end{array}$	$\begin{array}{r} 3 \\ + 3 \\ \hline 6 \end{array}$	$\begin{array}{r} 1 \\ + 4 \\ \hline 5 \end{array}$	$\begin{array}{r} 4 \\ + 2 \\ \hline 6 \end{array}$	$\begin{array}{r} 1 \\ + 5 \\ \hline 6 \end{array}$



## Ways to Show Taking Away

6 in all. Take away 2.



Choose a number story below. Choose one of these ways to show it.

$$\begin{array}{r} 6 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ - 4 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ - 2 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ - 4 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ - 2 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ - 6 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 6 \\ - 4 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 5 \\ - 1 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 6 \\ - 3 \\ \hline 3 \end{array}$$

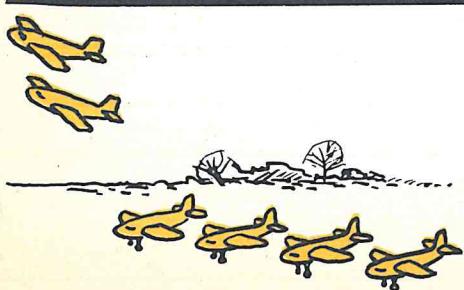
$$\begin{array}{r} 5 \\ - 2 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 6 \\ - 1 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 6 \\ - 5 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 6 \\ - 2 \\ \hline 4 \end{array}$$

~~$\begin{array}{r} 6 \\ - 4 \\ \hline 2 \end{array}$~~     ~~$\begin{array}{r} 5 \\ - 3 \\ \hline 2 \end{array}$~~     ~~$\begin{array}{r} 6 \\ - 2 \\ \hline 4 \end{array}$~~     ~~$\begin{array}{r} 6 \\ - 5 \\ \hline 1 \end{array}$~~     ~~$\begin{array}{r} 5 \\ - 5 \\ \hline 0 \end{array}$~~     ~~$\begin{array}{r} 6 \\ - 3 \\ \hline 3 \end{array}$~~     ~~$\begin{array}{r} 6 \\ - 1 \\ \hline 5 \end{array}$~~     ~~$\begin{array}{r} 5 \\ - 2 \\ \hline 3 \end{array}$~~     ~~$\begin{array}{r} 5 \\ - 4 \\ \hline 1 \end{array}$~~     ~~$\begin{array}{r} 6 \\ - 6 \\ \hline 0 \end{array}$~~     ~~$\begin{array}{r} 4 \\ - 3 \\ \hline 1 \end{array}$~~



There were 6 s.  
See ~~6~~ s go.  
~~6~~ s are left.



There were 6 s.  
See ~~6~~ s go.  
~~5~~ s are left.

Visualizing the meaning of subtraction number facts through the 6's. Children determine from the number story how many

are being taken away. They cross out this number in the picture and discover and write the remainder.

C

## How Many Are Left?

$\begin{array}{r} 6 \\ - 1 \\ \hline 5 \end{array}$	$\begin{array}{r} 6 \\ - 5 \\ \hline 1 \end{array}$	$\begin{array}{r} 6 \\ - 2 \\ \hline 4 \end{array}$	$\begin{array}{r} 6 \\ - 4 \\ \hline 2 \end{array}$	$\begin{array}{r} 6 \\ - 3 \\ \hline 3 \end{array}$	$\begin{array}{r} 6 \\ - 6 \\ \hline 0 \end{array}$
---	---	---	---	---	---

$\begin{array}{r} 6 \\ - 1 \\ \hline 5 \end{array}$	$\begin{array}{r} 6 \\ - 3 \\ \hline 3 \end{array}$	$\begin{array}{r} 5 \\ - 4 \\ \hline 1 \end{array}$	$\begin{array}{r} 5 \\ - 3 \\ \hline 2 \end{array}$	$\begin{array}{r} 6 \\ - 2 \\ \hline 4 \end{array}$	$\begin{array}{r} 6 \\ - 6 \\ \hline 2 \end{array}$	$\begin{array}{r} 4 \\ - 2 \\ \hline 2 \end{array}$	$\begin{array}{r} 6 \\ - 4 \\ \hline 2 \end{array}$	$\begin{array}{r} 6 \\ - 5 \\ \hline 1 \end{array}$	$\begin{array}{r} 4 \\ - 3 \\ \hline 1 \end{array}$	$\begin{array}{r} 3 \\ - 1 \\ \hline 2 \end{array}$
$\begin{array}{r} 6 \\ - 5 \\ \hline 1 \end{array}$	$\begin{array}{r} 6 \\ - 3 \\ \hline 3 \end{array}$	$\begin{array}{r} 5 \\ - 2 \\ \hline 3 \end{array}$	$\begin{array}{r} 6 \\ - 4 \\ \hline 2 \end{array}$	$\begin{array}{r} 6 \\ - 1 \\ \hline 5 \end{array}$	$\begin{array}{r} 6 \\ - 3 \\ \hline 3 \end{array}$	$\begin{array}{r} 2 \\ - 1 \\ \hline 1 \end{array}$	$\begin{array}{r} 6 \\ - 6 \\ \hline 0 \end{array}$	$\begin{array}{r} 6 \\ - 2 \\ \hline 4 \end{array}$	$\begin{array}{r} 6 \\ - 1 \\ \hline 5 \end{array}$	$\begin{array}{r} 5 \\ - 5 \\ \hline 0 \end{array}$
$\begin{array}{r} 6 \\ - 0 \\ \hline 6 \end{array}$	$\begin{array}{r} 6 \\ - 3 \\ \hline 3 \end{array}$	$\begin{array}{r} 5 \\ - 3 \\ \hline 2 \end{array}$	$\begin{array}{r} 6 \\ - 4 \\ \hline 2 \end{array}$	$\begin{array}{r} 6 \\ - 1 \\ \hline 5 \end{array}$	$\begin{array}{r} 6 \\ - 3 \\ \hline 3 \end{array}$	$\begin{array}{r} 1 \\ - 1 \\ \hline 0 \end{array}$	$\begin{array}{r} 6 \\ - 6 \\ \hline 0 \end{array}$	$\begin{array}{r} 6 \\ - 2 \\ \hline 4 \end{array}$	$\begin{array}{r} 6 \\ - 1 \\ \hline 5 \end{array}$	$\begin{array}{r} 5 \\ - 5 \\ \hline 0 \end{array}$
$\begin{array}{r} 6 \\ - 1 \\ \hline 5 \end{array}$	$\begin{array}{r} 6 \\ - 4 \\ \hline 2 \end{array}$	$\begin{array}{r} 5 \\ - 1 \\ \hline 4 \end{array}$	$\begin{array}{r} 6 \\ - 3 \\ \hline 3 \end{array}$	$\begin{array}{r} 6 \\ - 5 \\ \hline 1 \end{array}$	$\begin{array}{r} 6 \\ - 2 \\ \hline 4 \end{array}$	$\begin{array}{r} 6 \\ - 1 \\ \hline 5 \end{array}$	$\begin{array}{r} 6 \\ - 6 \\ \hline 0 \end{array}$	$\begin{array}{r} 6 \\ - 4 \\ \hline 2 \end{array}$	$\begin{array}{r} 6 \\ - 1 \\ \hline 5 \end{array}$	$\begin{array}{r} 5 \\ - 5 \\ \hline 0 \end{array}$

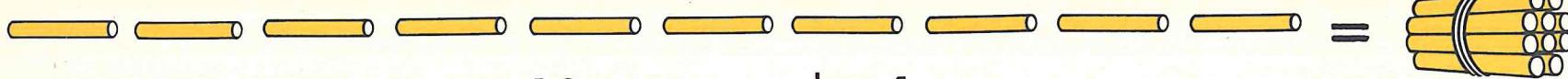


6 /'s were in the .  
I took out 2 /'s.  
4 /'s are left in the .



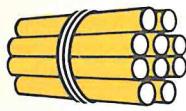
6 balls  

$$\begin{array}{r} 6 \\ - 1 \\ \hline 5 \end{array}$$
 ball  
5 balls

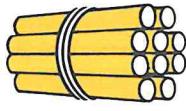


10 ones make 1 ten.

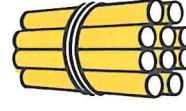
See how ones make numbers grow.



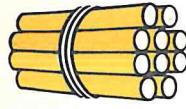
ten      one  
in all



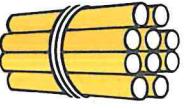
2 ten      2 ones  
in all



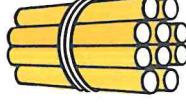
3 ten      3 ones  
in all



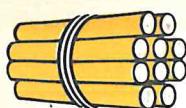
✓ ten      4 ones  
in all



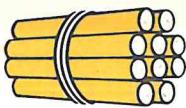
5 ten      5 ones  
in all



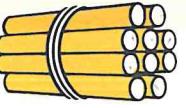
✓ ten      6 ones  
in all



✓ ten      7 ones  
in all



✓ ten      8 ones  
in all



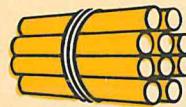
✓ ten      9 ones  
in all

Reviewing place value of two-place numbers as shown with sticks and bundles of tens. As in the first grade, the class should

have 10 single sticks and 1 bundle, or 1 ten. The class will demonstrate each number pictured in this lesson.

## Watch Numbers Grow

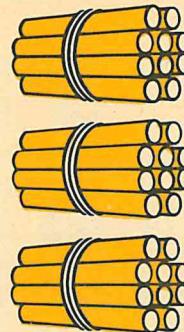
See how tens make numbers grow faster.



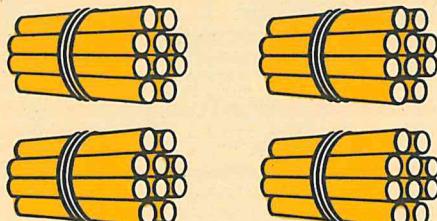
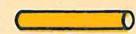
— ten  
— one  
— in all



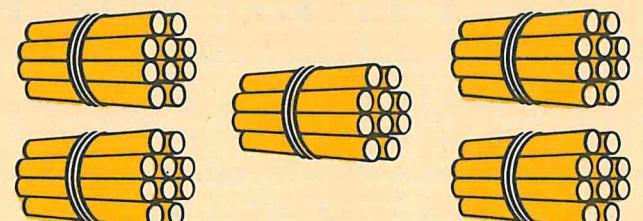
— tens  
— one  
— in all



— tens  
— one  
— in all



— tens  
— one  
— in all



— tens  
— one  
— in all



6 tens 1 one  
— in all

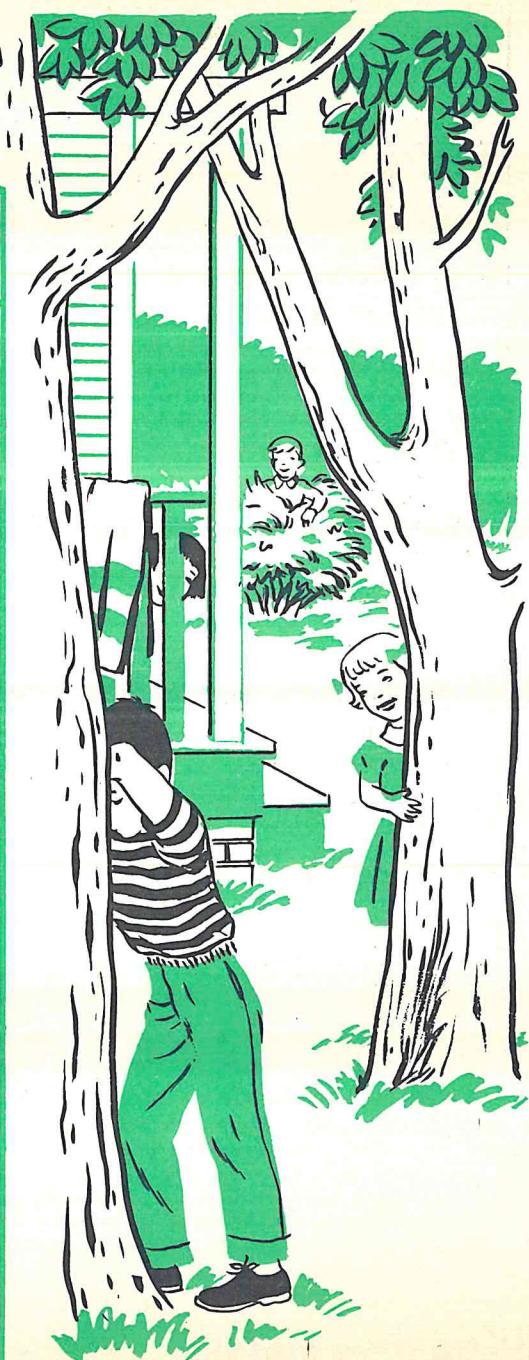
7 tens 1 one  
— in all

8 tens 1 one  
— in all

9 tens 1 one  
— in all



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



Counting from 1 to 100. Children read the numbers a row at a time. They are led to discover that each time they get to a 9, they regroup and begin over again with 1, as 17, 18, 19, 20, 21, etc. The Teachers Edition suggests many activities.

A

43

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

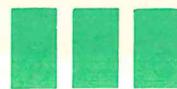
## A New Way to Show How Numbers Grow

ones



1 one

ones



3 ones

ones



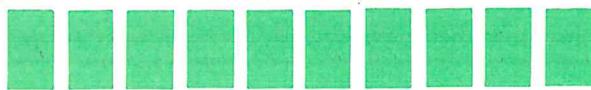
5 ones

ones



10 ones

ones



C

tens



ones



Here are 10 ones.

We put the  in tens' place.

Join 10 ones to make 1 .

10 ten  ones

Call this  1 ten.

10 in all

tens



ones



1 ten

 in all

tens



ones



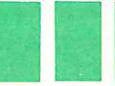
10 ten

 in all

tens



ones



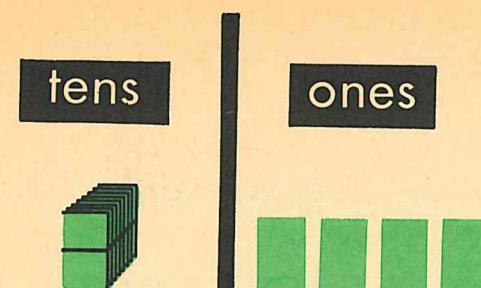
10 ten

 in all

Introducing single tickets and bundles of tens as another way to show the place value of two-place numbers. The class should have 10 single tickets and 1 tens' bundle. The children will demonstrate each number shown in this lesson.

have 10 single tickets and 1 tens' bundle. The children will demonstrate each number shown in this lesson.

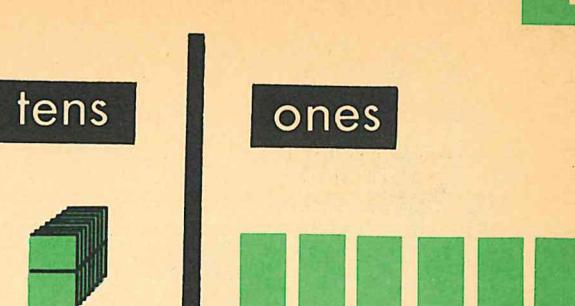
children will demonstrate each number in this lesson and show the regrouping from 1 ten and 9 ones to 2 tens and 0 ones.



~~10~~ ten    ~~3~~ ones  
~~10~~ in all



~~10~~ ten    ~~7~~ ones  
~~11~~ in all



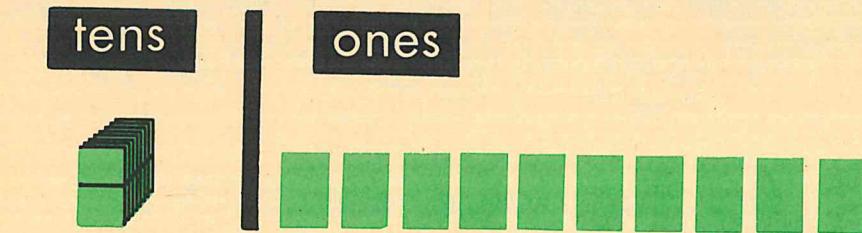
~~10~~ ten    ~~21~~ ones  
~~11~~ in all

$$1 \text{ ten and } 3 \text{ ones} = \underline{\hspace{2cm}}$$

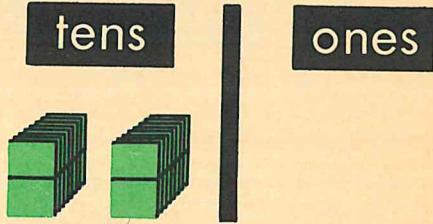
$$1 \text{ ten and } 7 \text{ ones} = \underline{\hspace{2cm}}$$

$$1 \text{ ten and } 8 \text{ ones} = \underline{\hspace{2cm}}$$

$$1 \text{ ten and } 9 \text{ ones} = \underline{\hspace{2cm}}$$



~~10~~ ten    ~~10~~ ones



~~10~~ tens    ~~10~~ ones  
~~11~~ in all

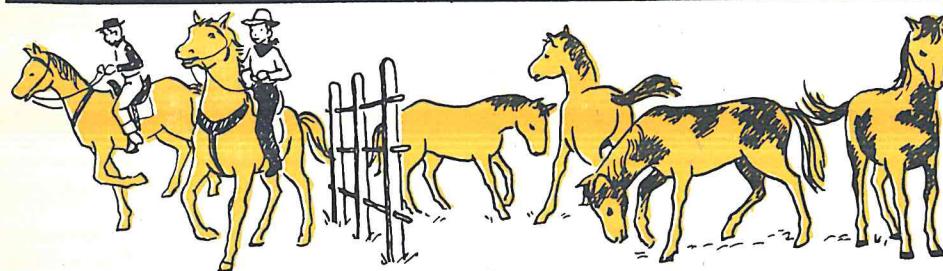
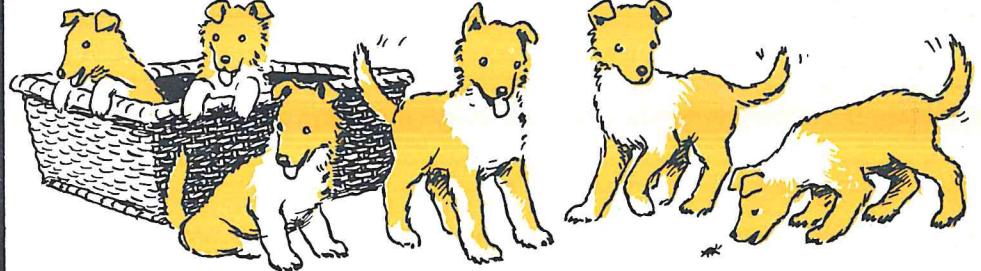
We put 10 ones together.

Then we have another .

We put it with the tens.



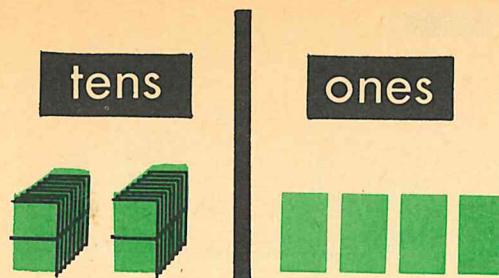
C

1 squirrel eats.5 squirrels come.  
6 squirrels in all2 boys with 0 sacks  
✓ 3 boys come.  
6 boys in all6 horses in all2 horses go.4 horses are left.6 dogs were in a basket.✓ 3 dogs got out of the basket.3 dogs are left in the basket.

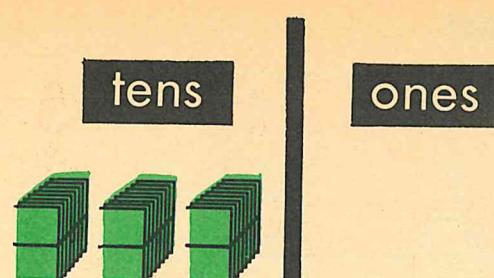
$$\begin{array}{r}
 3 \\ + 2 \\ \hline
 \end{array}
 \quad
 \begin{array}{r}
 1 \\ + 5 \\ \hline
 \end{array}
 \quad
 \begin{array}{r}
 3 \\ + 3 \\ \hline
 \end{array}
 \quad
 \begin{array}{r}
 2 \\ + 4 \\ \hline
 \end{array}
 \quad
 \begin{array}{r}
 4 \\ + 2 \\ \hline
 \end{array}
 \quad
 \begin{array}{r}
 2 \\ + 3 \\ \hline
 \end{array}$$

$$\begin{array}{r}
 5 \\ - 2 \\ \hline
 \end{array}
 \quad
 \begin{array}{r}
 6 \\ - 5 \\ \hline
 \end{array}
 \quad
 \begin{array}{r}
 6 \\ - 3 \\ \hline
 \end{array}
 \quad
 \begin{array}{r}
 6 \\ - 4 \\ \hline
 \end{array}
 \quad
 \begin{array}{r}
 6 \\ - 2 \\ \hline
 \end{array}
 \quad
 \begin{array}{r}
 5 \\ - 3 \\ \hline
 \end{array}$$

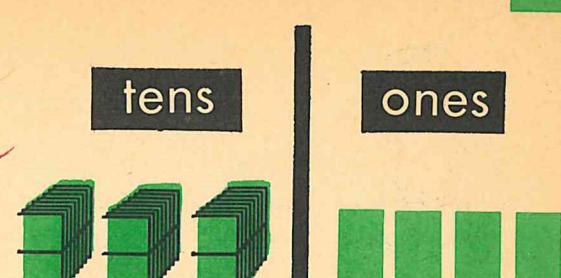
single tickets. The children will demonstrate all the numbers in this lesson and write all the missing numbers.



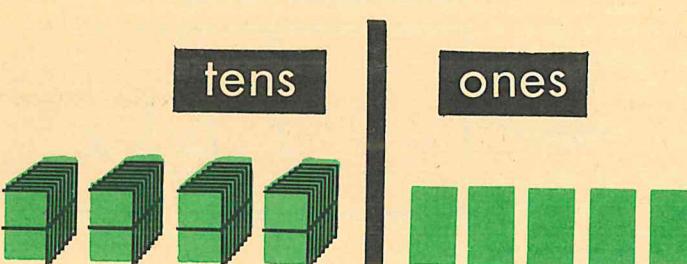
2 tens    4 ones  
24 in all



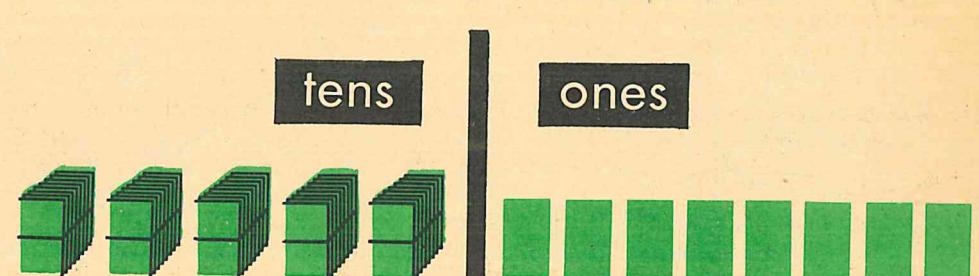
3 tens    6 ones  
36 in all



3 tens    4 ones  
34 in all



4 tens    5 ones  
45 in all



5 tens    8 ones  
58 in all

$$\begin{aligned} 6 \text{ tens and } 0 \text{ ones} &= \underline{\quad} \\ 8 \text{ tens and } 5 \text{ ones} &= \underline{\quad} \\ 9 \text{ tens and } 7 \text{ ones} &= \underline{\quad} \end{aligned}$$

---


$$\begin{aligned} 42 &= \underline{4} \text{ tens and } \underline{2} \text{ ones} \\ 70 &= \underline{7} \text{ tens and } \underline{0} \text{ ones} \\ 59 &= \underline{5} \text{ tens and } \underline{9} \text{ ones} \end{aligned}$$

48



Each side is 1 inches long.

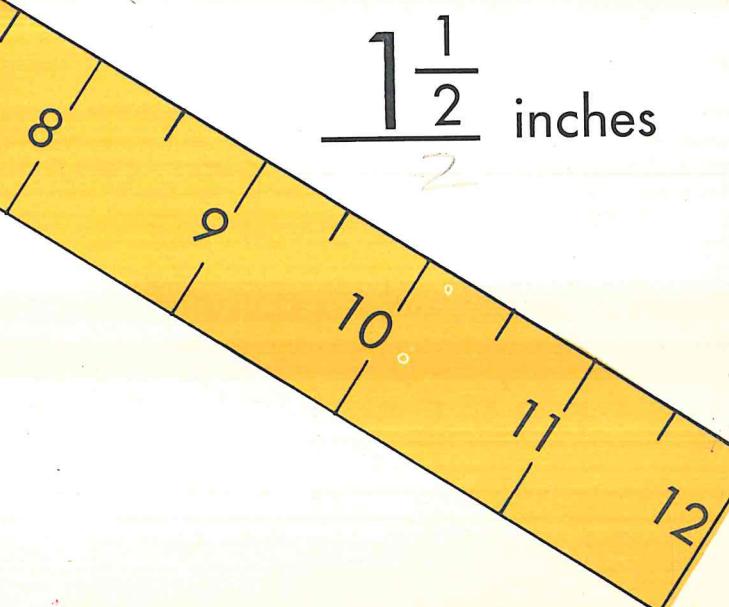
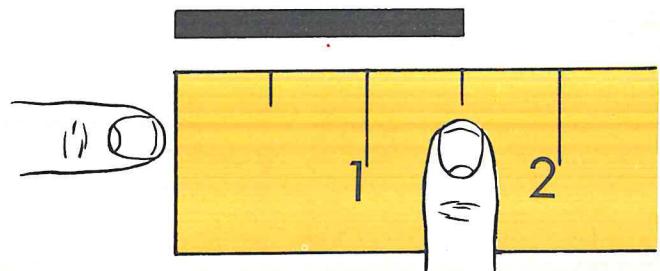
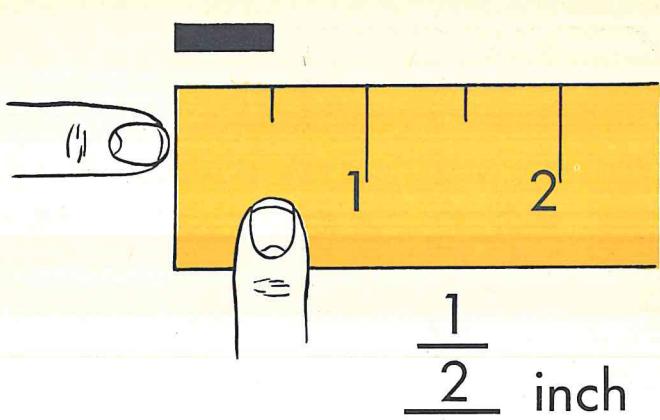
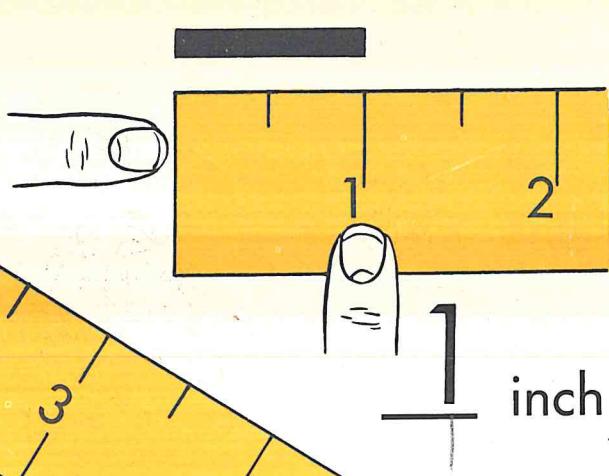


The is 1 1/2 inches long.



Each short side is 1 3/4 inch long.

Each long side is 1 3/4 inches long.



Introducing inches and half inches on a ruler. Children cut out the 12-inch ruler, measure the length of lines and objects on the page, and write the lengths. See the Teachers Edition.



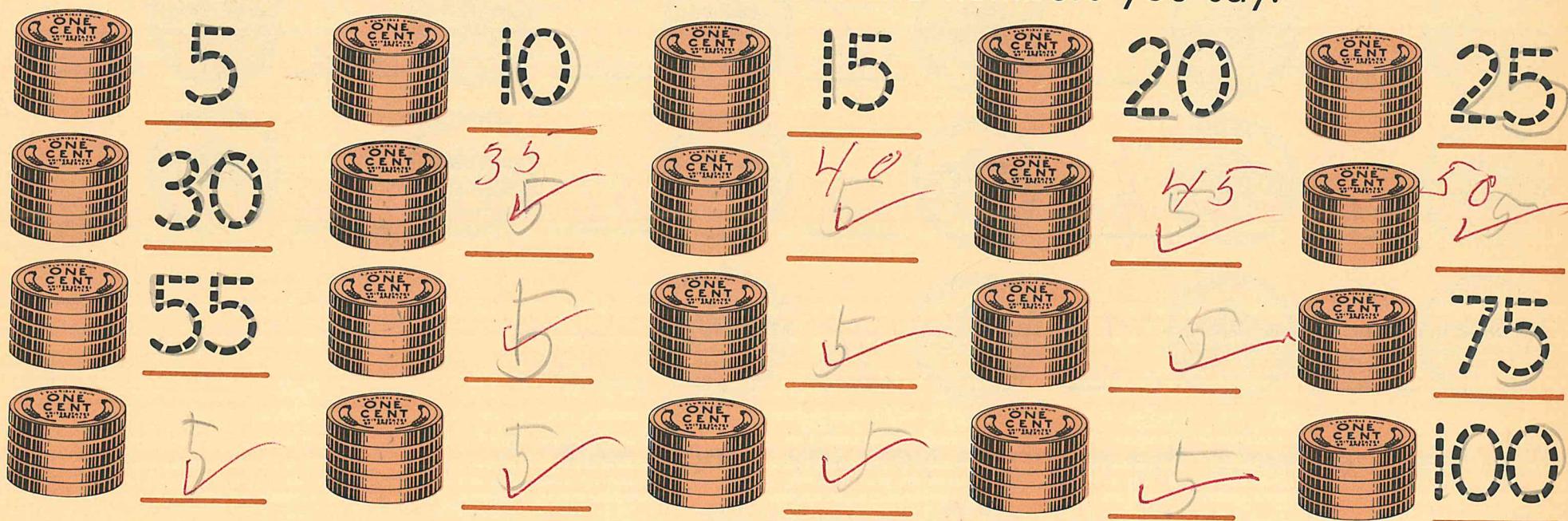
The children sold apples.  
Help them count their money.

F

How many pennies are in each ?

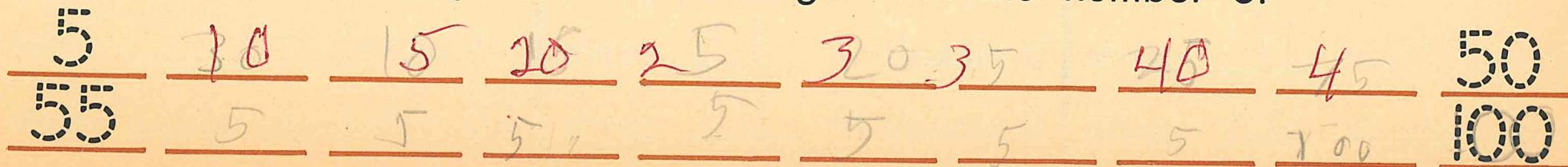


Point to each as you count by 5's.  
Write the numbers you say.



How many pennies have they in all? 100

Write by 5's to 100. Begin with the number 5.



C ✓



=



$$1 \text{ nickel} = 5 \text{ cents}$$

Count by 5's. Find out how many cents in all.



5



10



✓ 15



20



25



30



35



40



45



50



55



60



65



70



75



80

On the lines write the numbers you say. Begin with 5.

The children's nickels are 80 cents in all.

Find out how many cents. Count by 5's to find out.

$$2 \text{ nickels} = \underline{10} \text{ cents}$$

$$3 \text{ nickels} = \underline{15} \text{ cents}$$

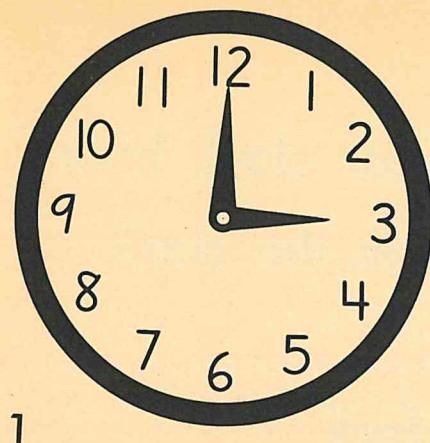
$$5 \text{ nickels} = \underline{25} \text{ cents}$$

$$7 \text{ nickels} = \underline{35} \text{ cents}$$

$$8 \text{ nickels} = \underline{40} \text{ cents}$$

$$10 \text{ nickels} = \underline{50} \text{ cents}$$

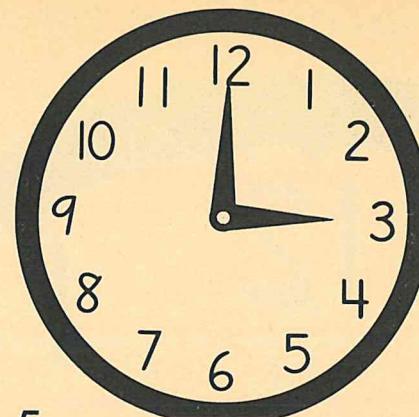
to clock 2. Pictures 7 and 8 show hand changes from clock 5 to clock 6. Children see the meaning of half past.



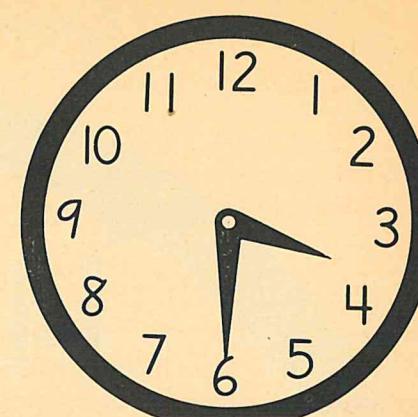
1



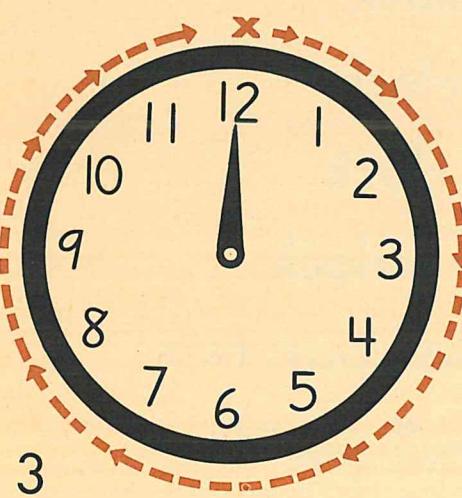
2



5



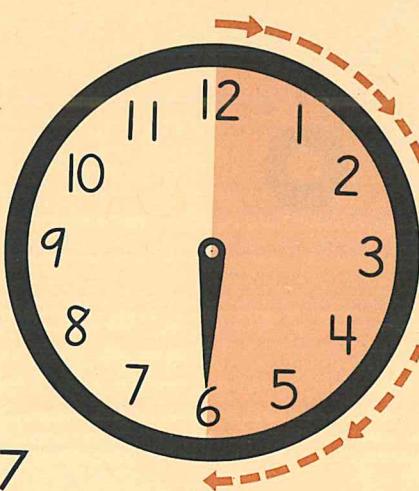
6



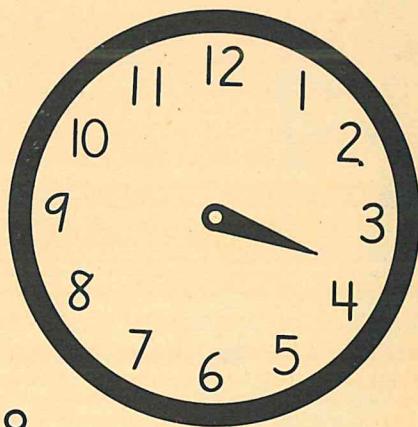
3



4



7



8

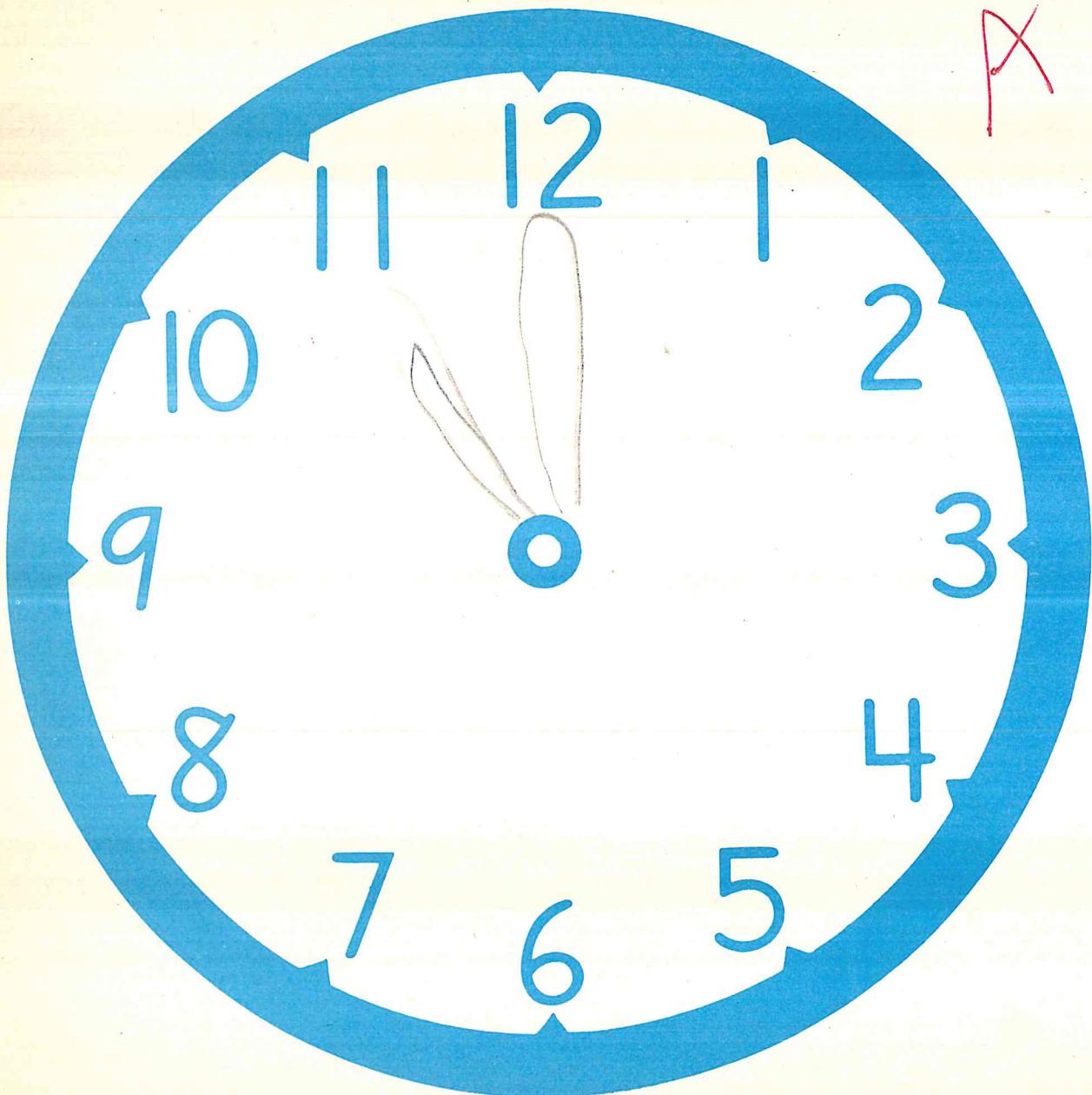
In one hour the long hand went all the way around the clock.

The short hand went from one number to the next number.

In one half hour the long hand went **half** way around the clock.

The short hand went **half** way between 3 and 4.

## Clock Hands Show Time



Use sticks for clock hands.

Lay them on the clock  
to show:

five o'clock

ten o'clock

one o'clock

nine o'clock

twelve o'clock

half past two

half past four

half past nine

half past six

half past eleven

half past twelve

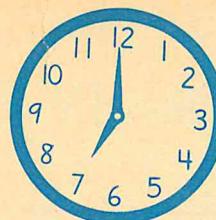
Demonstrating hour and half hour on the clock face by laying the hands in place. The teacher will supply pieces of paste

sticks, toothpicks, or strips of cardboard. The children will lay the clock hands in place to show the time indicated.

Morning.

I get up.

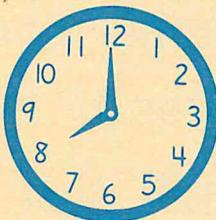
7 o'clock



Breakfast time.

I eat a good breakfast.

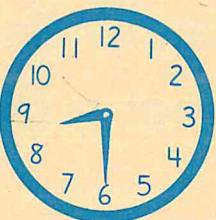
8 o'clock



Time to go to school.

Off to school I go!

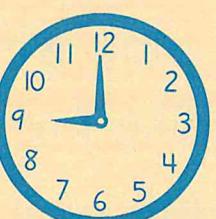
Half past 8



The bell rings.

School begins.

9 o'clock



Time to read.

I like to read.

Half past 9

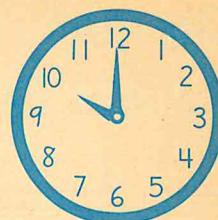


The bell rings.

Out to play.

10 o'clock

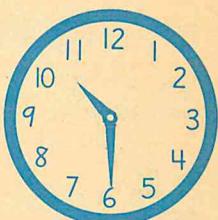
A



Time to sing.

I like to sing.

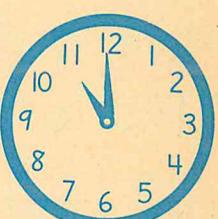
Half past 10



Time for numbers.

I like numbers.

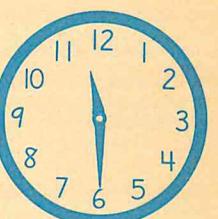
11 o'clock



Time for a story.

I like stories.

Half past 11



Noon time.

Time to eat.

12 o'clock



The bell rings.  
School begins again.

1 o'clock



Time to read again.  
I like to read.

Half past 1



Time to draw.  
I like to draw.

Half past 2



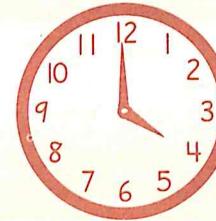
School is over.  
Off for home.

Half past 3



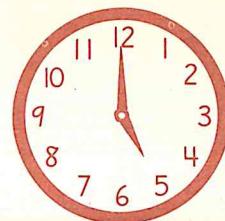
Home again.  
Out to play.

4 o'clock



TV time.  
I like TV time.

5 o'clock



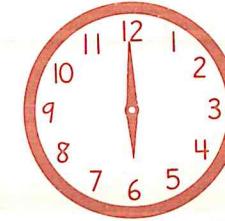
Father comes home.  
I run to meet Father.

Half past 5



Dinner time.  
I eat a good dinner.

6 o'clock



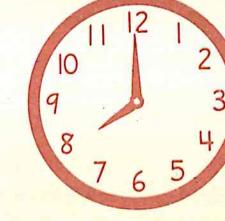
I play with my games.  
I like my games.

Half past 7



Good night.  
Off to bed.

8 o'clock



Continuation of the lesson introduced on page 53—hour and half hour. In class the children discuss the child's activities and

name the time of day. At their seats they fill in all the missing numbers.

Write the numbers that belong  
in the empty boxes. Then say them.

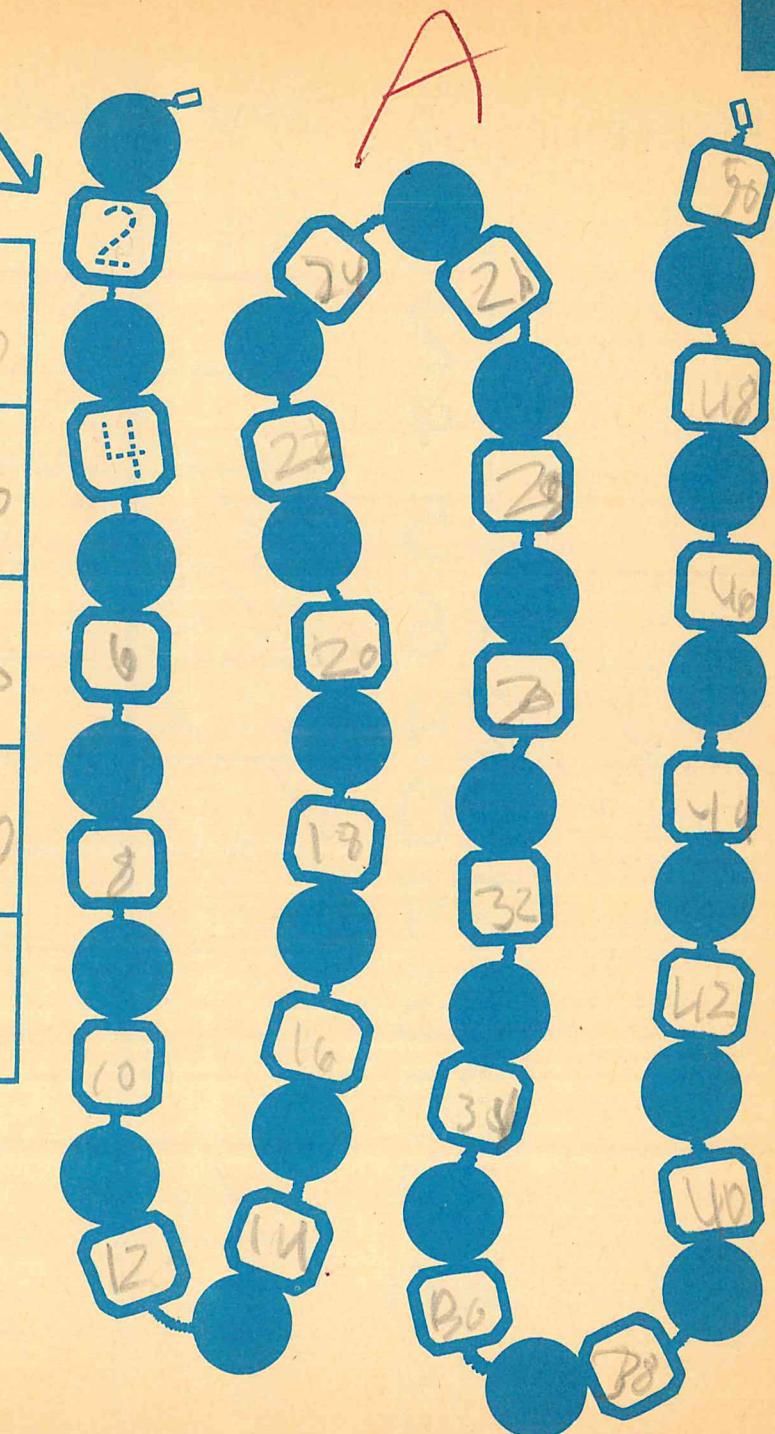
I	2	3	4	5	6	7	8	9	10
II	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

Count Jane's beads one at a time.

How many beads in all? 50

Count Jane's beads two at a time.

On each  bead write the number you say.



Before

9  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23

After

0  
2  
9  
5  
6  
4  
2  
2  
9  
2  
3  
3  
0  
3  
9  
0  
4  
5  
9

Before

60  
89  
51  
73  
56  
90  
59  
99  
89  
76  
57  
68  
52

After

51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62

What comes between?

9  
19  
29  
39  
49  
59  
69  
79  
89  
70  
80  
90  
100  
101  
102  
103  
104  
105  
106  
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109  
110  
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112  
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183  
184  
185  
186  
187  
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191  
192  
193  
194  
195  
196  
197  
198  
199  
200

Number sequence in numbers from 1 to 100. In the first two columns children write the number that comes before and after each number shown. In the third column they write the number that comes between the two numbers shown.



~~✓~~ 7 s by the

The brings 1 more .

Circle all the s.

7 s in all

$$\begin{array}{r} + 6 \\ \hline 7 \end{array}$$

$$\begin{array}{r} + 2 \\ \hline 6 \end{array}$$

$$\begin{array}{r} + 2 \\ \hline 5 \end{array}$$

$$\begin{array}{r} + 4 \\ \hline 8 \end{array}$$

$$\begin{array}{r} + 1 \\ \hline 2 \end{array}$$

$$\begin{array}{r} + 3 \\ \hline 5 \end{array}$$

$$\begin{array}{r} - 1 \\ \hline 6 \end{array}$$

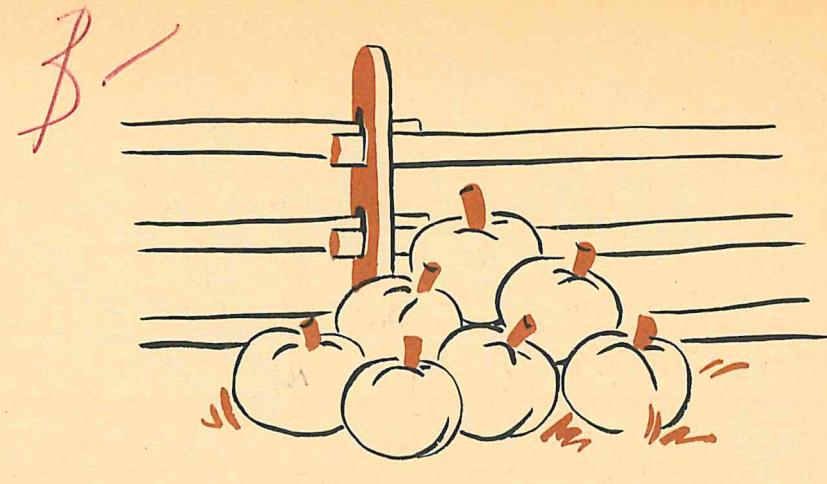
$$\begin{array}{r} - 2 \\ \hline 4 \end{array}$$

$$\begin{array}{r} - 3 \\ \hline 2 \end{array}$$

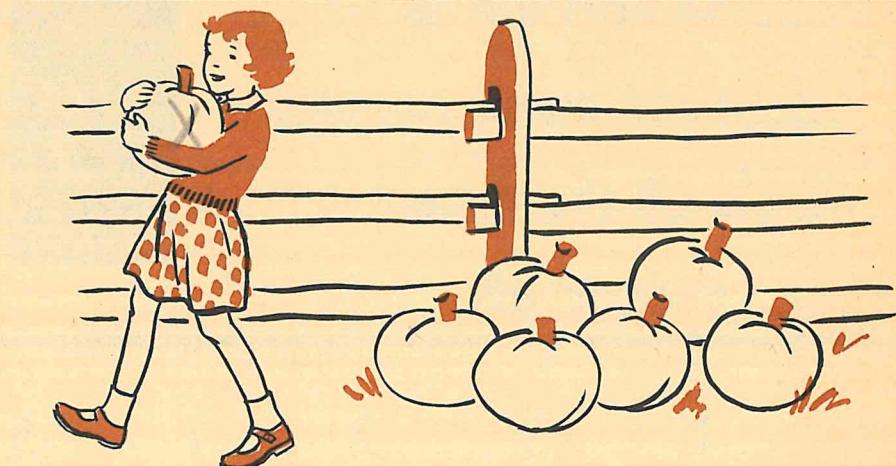
$$\begin{array}{r} - 4 \\ \hline 2 \end{array}$$

$$\begin{array}{r} - 1 \\ \hline 0 \end{array}$$

$$\begin{array}{r} - 2 \\ \hline 3 \end{array}$$



~~✓~~ 7 s by the

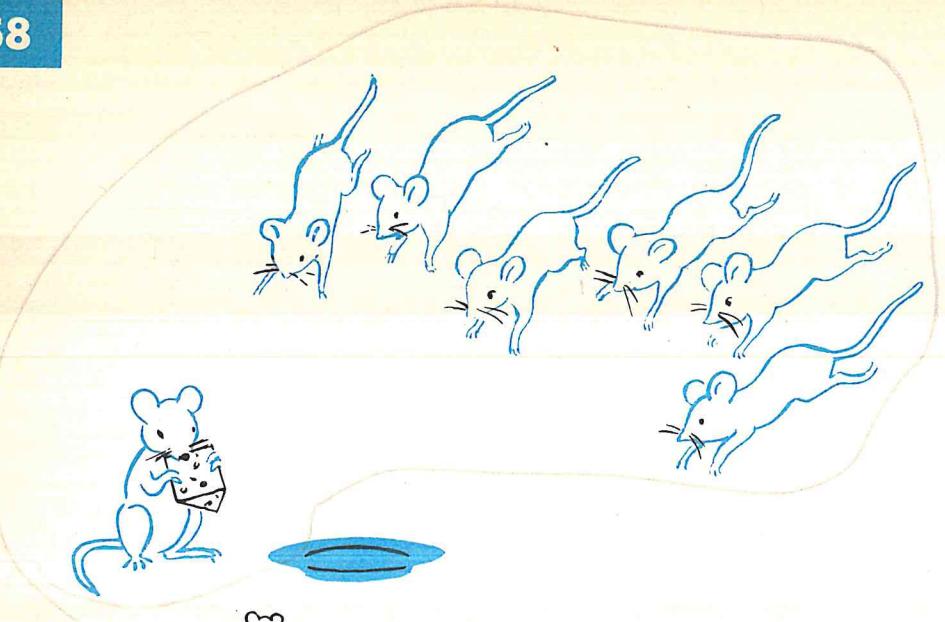


Sue takes ~~1~~ 1 for a .

Put X on the Sue takes.

~~✓~~ 6 s are left.

$$\begin{array}{r} - 1 \\ \hline 6 \end{array}$$



1 mouse eats the .

6 mice come running.

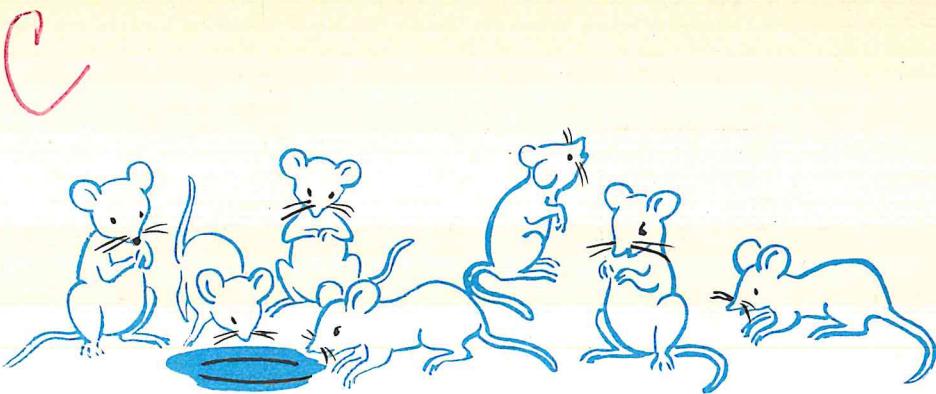
Circle all the mice.

7 mice in all

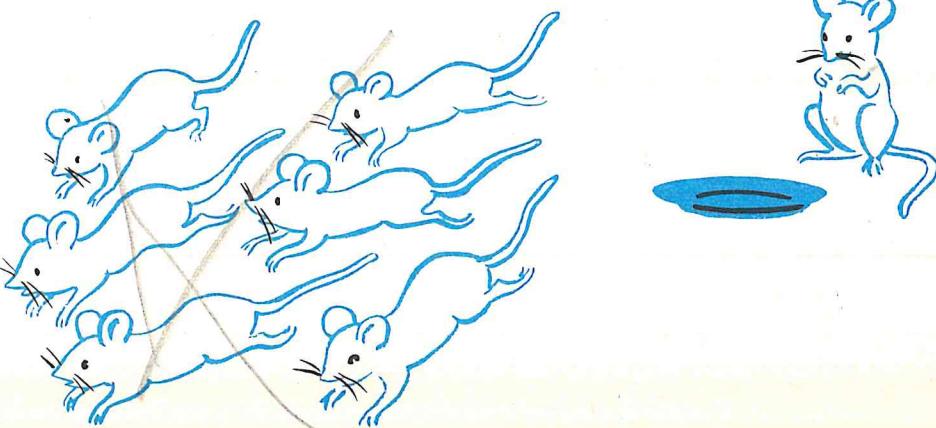
$$\begin{array}{r} 1 \\ + 6 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 1 \\ + 6 \\ \hline \checkmark \end{array} \quad \begin{array}{r} 1 \\ + 5 \\ \hline \checkmark \end{array} \quad \begin{array}{r} 3 \\ + 3 \\ \hline \checkmark \end{array} \quad \begin{array}{r} 2 \\ + 2 \\ \hline \checkmark \end{array} \quad \begin{array}{r} 1 \\ + 6 \\ \hline \checkmark \end{array} \quad \begin{array}{r} 5 \\ + 1 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ - 6 \\ \hline \checkmark \end{array} \quad \begin{array}{r} 6 \\ - 5 \\ \hline \checkmark \end{array} \quad \begin{array}{r} 4 \\ - 2 \\ \hline \checkmark \end{array} \quad \begin{array}{r} 6 \\ - 3 \\ \hline \checkmark \end{array} \quad \begin{array}{r} 6 \\ - 1 \\ \hline \checkmark \end{array} \quad \begin{array}{r} 7 \\ - 6 \\ \hline \checkmark \end{array}$$



7 mice in all



6 mice run away.

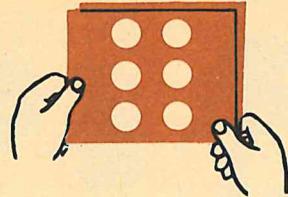
Put X on the mice that go.

1 is left.

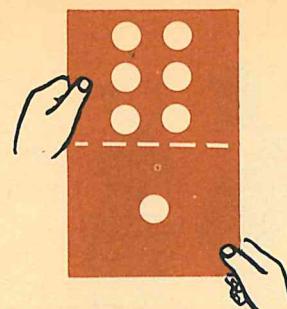
$$\begin{array}{r} 7 \\ - 6 \\ \hline 1 \end{array}$$

Visualizing related facts  $1 + 6 = 7$  and  $7 - 6 = 1$ . Children talk about the number story in the picture at the left; dramatize the story with objects; make a disk picture of the story;

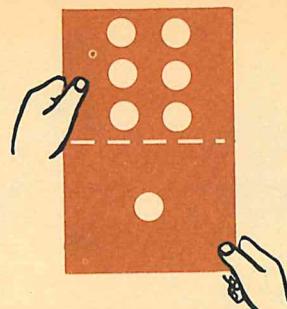
then fill in the missing numbers. Follow a similar plan for  $7 - 6 = 1$ .



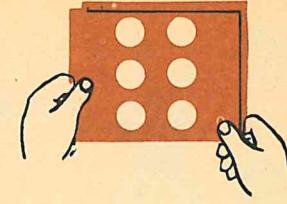
You see b.



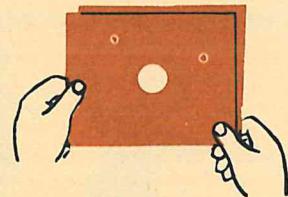
Open and see  $\begin{array}{r} +1 \\ \hline 7 \end{array}$ .



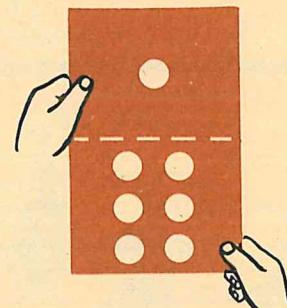
You see  $\begin{array}{r} 7 \\ -1 \\ \hline \end{array}$   
in all. c



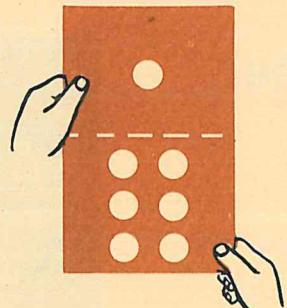
Close to show  $\begin{array}{r} -1 \\ \hline 6 \end{array}$ .



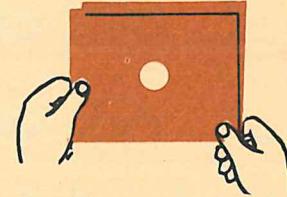
You see l.



Open and see  $\begin{array}{r} +6 \\ \hline 7 \end{array}$ .



You see  $\begin{array}{r} 7 \\ -6 \\ \hline \end{array}$   
in all.



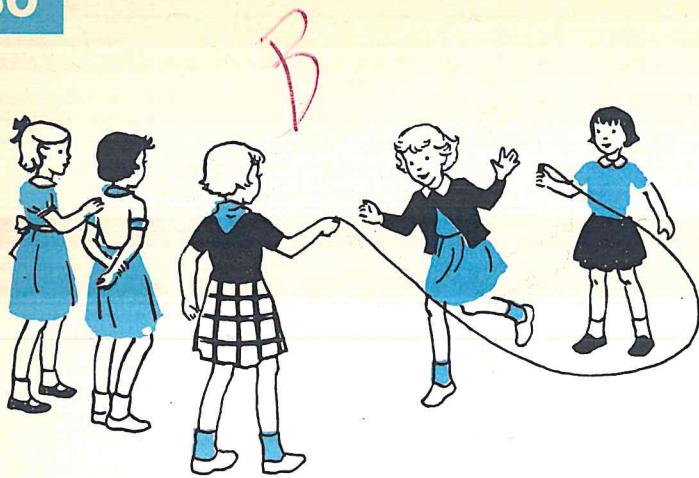
Close to show  $\begin{array}{r} -6 \\ \hline 7 \end{array}$ .

$$\begin{array}{r}
 +6 & +1 & +2 & +6 & +4 & +1 \\
 \hline
 7 & 7 & 7 & 7 & 7 & 7
 \end{array}$$

$$\begin{array}{r}
 +2 & +6 & +1 & +3 & +1 & +5 \\
 \hline
 +3 & +1 & +5 & +2 & +6 & +1
 \end{array}$$

$$\begin{array}{r}
 -1 & -7 & -6 & -4 & -7 & -6 \\
 \hline
 7 & 7 & 7 & 7 & 7 & 7
 \end{array}$$

$$\begin{array}{r}
 -5 & -7 & -6 & -1 & -2 & -6 \\
 \hline
 -3 & -1 & -5 & 4 & 7 & 12
 \end{array}$$



5 girls are together.

2 girls come.

Circle all the girls. ✓

7 girls in all

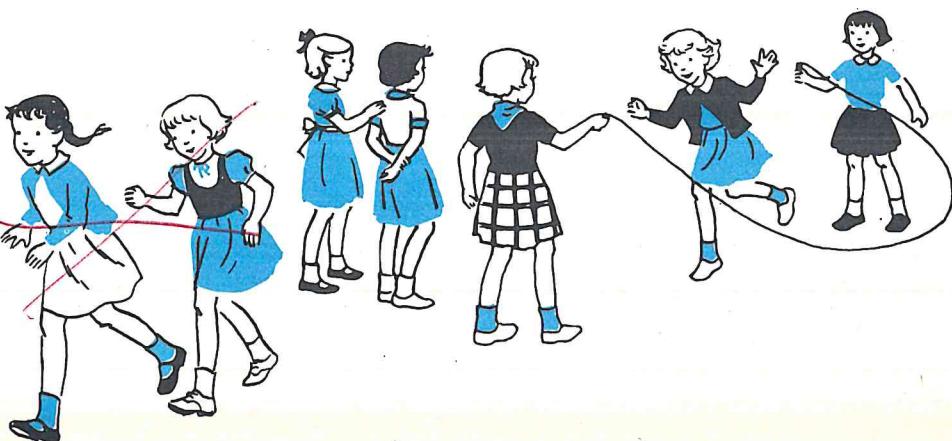
$$\begin{array}{r} 5 \\ + 2 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 5 \\ + 2 \\ \hline 7 \end{array} \quad \begin{array}{r} 1 \\ + 3 \\ \hline 4 \end{array} \quad \begin{array}{r} 4 \\ + 1 \\ \hline 5 \end{array} \quad \begin{array}{r} 5 \\ + 2 \\ \hline 7 \end{array} \quad \begin{array}{r} 1 \\ + 4 \\ \hline 5 \end{array} \quad \begin{array}{r} 3 \\ + 1 \\ \hline 4 \end{array}$$
  

$$\begin{array}{r} 7 \\ - 2 \\ \hline 5 \end{array} \quad \begin{array}{r} 5 \\ - 1 \\ \hline 4 \end{array} \quad \begin{array}{r} 4 \\ - 3 \\ \hline 1 \end{array} \quad \begin{array}{r} 5 \\ - 4 \\ \hline 1 \end{array} \quad \begin{array}{r} 7 \\ - 2 \\ \hline 5 \end{array} \quad \begin{array}{r} 4 \\ - 1 \\ \hline 3 \end{array}$$



7 girls in all



2 girls go away.

Put X on the girls that go.

5 girls are left.

$$\begin{array}{r} 7 \\ - 2 \\ \hline 5 \end{array}$$

Visualizing related facts  $5 + 2 = 7$  and  $7 - 2 = 5$ . Children talk about the number story in the picture at the left; dramatize the story with objects; make a disk picture of the story;

then fill in the missing numbers. Follow a similar plan for  $7 - 2 = 5$ .

then fill in the missing numbers. Follow a similar plan for  
 $7 - 5 = 2$ .



2 bees on the flower.

5 bees come.

Circle all the s.

7 bees in all

$$\begin{array}{r} + 5 \\ \hline 7 \end{array}$$

$$\begin{array}{r} + 2 \\ + 5 \\ \hline 7 \end{array}$$

$$\begin{array}{r} + 6 \\ + 1 \\ \hline 2 \end{array}$$

$$\begin{array}{r} + 1 \\ + 5 \\ \hline 6 \end{array}$$

$$\begin{array}{r} + 2 \\ + 5 \\ \hline 7 \end{array}$$

$$\begin{array}{r} + 1 \\ + 6 \\ \hline 7 \end{array}$$

$$\begin{array}{r} + 5 \\ + 1 \\ \hline 6 \end{array}$$

$$\begin{array}{r} - 5 \\ 7 \\ \hline 2 \end{array}$$

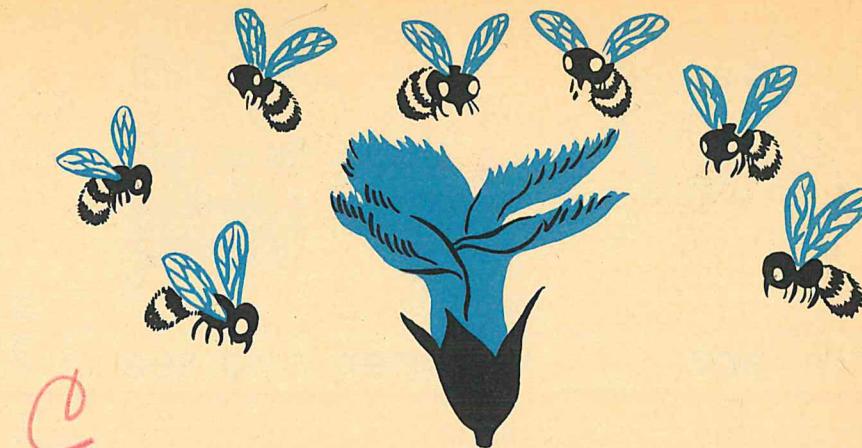
$$\begin{array}{r} - 7 \\ - 1 \\ \hline 1 \end{array}$$

$$\begin{array}{r} - 6 \\ - 1 \\ \hline 5 \end{array}$$

$$\begin{array}{r} - 7 \\ - 6 \\ \hline 1 \end{array}$$

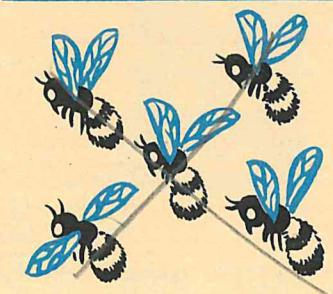
$$\begin{array}{r} - 6 \\ - 5 \\ \hline 1 \end{array}$$

$$\begin{array}{r} - 5 \\ 7 \\ \hline 2 \end{array}$$



C

7 bees around the flower.

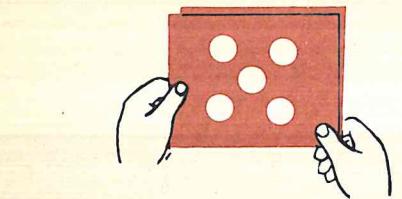


~~2~~ bees fly away.

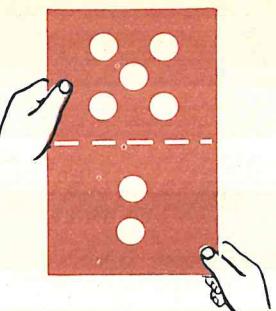
Put X on the s that go.

~~5~~ bees are left.

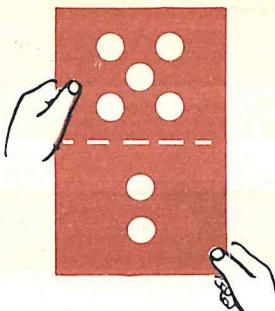
$$\begin{array}{r} 7 \\ - 5 \\ \hline 2 \end{array}$$



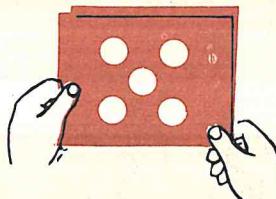
~~X~~ You see 5.



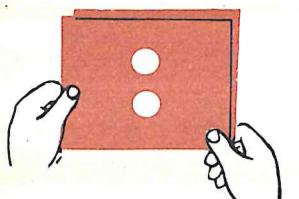
Open and see  $\underline{+2}$ .  
5  
7



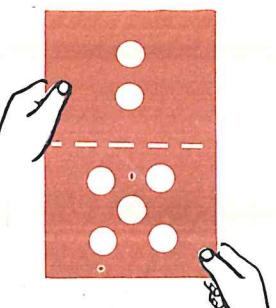
You see 7  
in all.



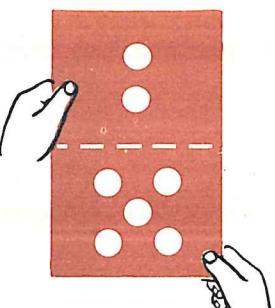
Close to show  $\underline{-2}$ .  
7  
5



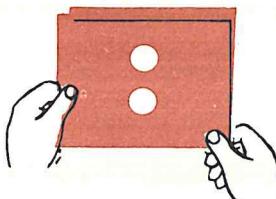
You see 2.



Open and see  $\underline{+5}$ .  
2  
7



You see 7  
in all.



Close to show  $\underline{-5}$ .  
7  
2

$$\begin{array}{r}
 5 & 2 & 4 \\
 +2 & +5 & +1 \\
 \hline
 7 & 7 & 5
 \end{array}
 \quad
 \begin{array}{r}
 5 & 1 & 2 \\
 +2 & +4 & +5 \\
 \hline
 7 & 5 & 7
 \end{array}$$

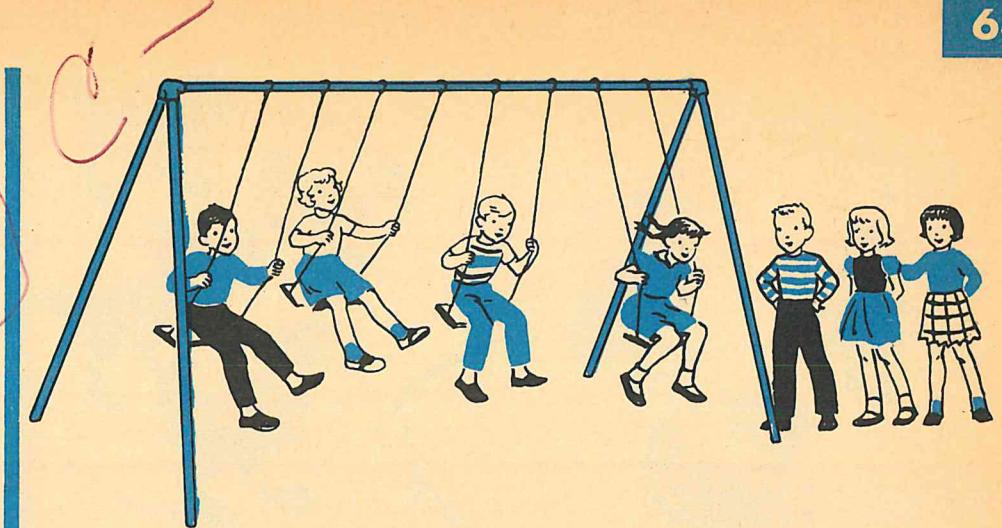
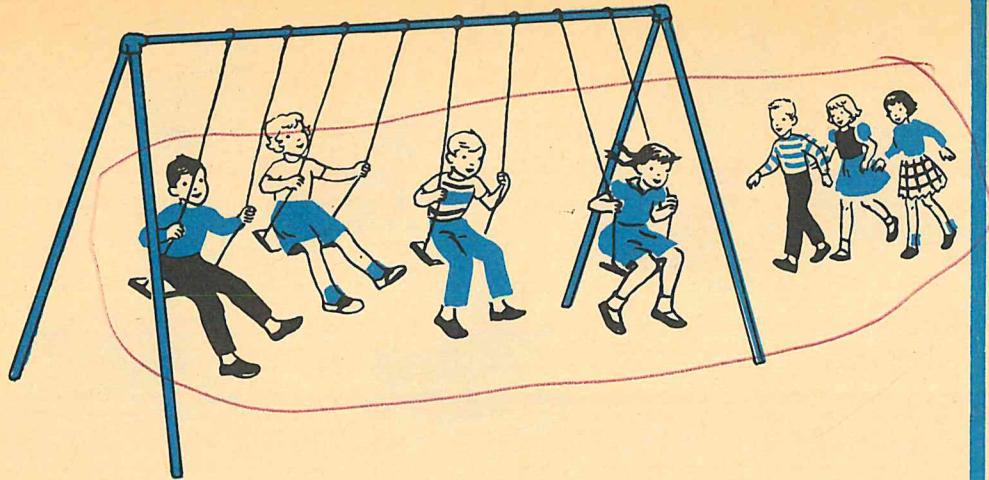
$$\begin{array}{r}
 3 & 5 & 2 \\
 +3 & +2 & +2 \\
 \hline
 6 & 7 & 4
 \end{array}
 \quad
 \begin{array}{r}
 2 & 1 & 1 \\
 +5 & +5 & +6 \\
 \hline
 7 & 7 & 7
 \end{array}$$

$$\begin{array}{r}
 7 & 7 & 5 \\
 -2 & -5 & -1 \\
 \hline
 5 & 2 & 4
 \end{array}
 \quad
 \begin{array}{r}
 7 & 7 & 5 \\
 -2 & -5 & -1 \\
 \hline
 5 & 2 & 4
 \end{array}$$

$$\begin{array}{r}
 6 & 7 & 4 \\
 -3 & -2 & -2 \\
 \hline
 3 & 5 & 2
 \end{array}
 \quad
 \begin{array}{r}
 7 & 7 & 7 \\
 -1 & -5 & -6 \\
 \hline
 6 & 2 & 1
 \end{array}$$

Visualizing a group of four related facts. Children study the first row of folding perception cards. Using a folded paper as shown, they discover two facts. By turning the folded paper around as shown, they discover two more facts. They fill in all the missing numbers.

around as shown, they discover two more facts. They fill in all the missing numbers.



4 children on the swings

3 children come.

Circle all the children.

7 children in all

$$\begin{array}{r} 4 \\ + 3 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 4 \\ + 3 \\ \hline 7 \end{array} \quad \begin{array}{r} 1 \\ + 4 \\ \hline 5 \end{array} \quad \begin{array}{r} 3 \\ + 3 \\ \hline 6 \end{array} \quad \begin{array}{r} 4 \\ + 1 \\ \hline 5 \end{array} \quad \begin{array}{r} 4 \\ + 3 \\ \hline 7 \end{array} \quad \begin{array}{r} 2 \\ + 2 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 7 \\ - 3 \\ \hline 4 \end{array} \quad \begin{array}{r} 5 \\ - 1 \\ \hline 4 \end{array} \quad \begin{array}{r} 4 \\ - 2 \\ \hline 2 \end{array} \quad \begin{array}{r} 7 \\ - 3 \\ \hline 4 \end{array} \quad \begin{array}{r} 5 \\ - 4 \\ \hline 1 \end{array} \quad \begin{array}{r} 6 \\ - 3 \\ \hline 3 \end{array}$$



4 children go away.

Put X on the children who go.

✓ children are left.

$$\begin{array}{r} 7 \\ - 3 \\ \hline 4 \end{array}$$



3 s in the

4 s come.

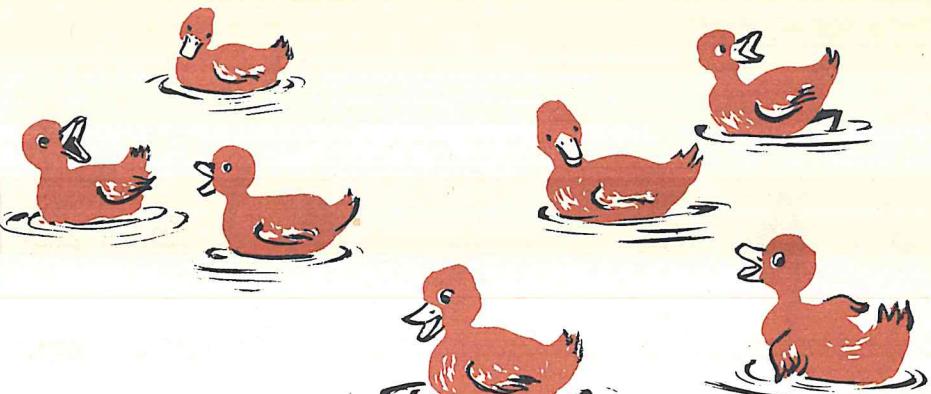
Circle all the s.

7 s in all

$$\begin{array}{r} 3 \\ + 4 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 3 \\ + 4 \\ \hline 7 \end{array} \quad \begin{array}{r} 5 \\ + 2 \\ \hline 7 \end{array} \quad \begin{array}{r} 2 \\ + 3 \\ \hline 5 \end{array} \quad \begin{array}{r} 2 \\ + 5 \\ \hline 7 \end{array} \quad \begin{array}{r} 3 \\ + 4 \\ \hline 7 \end{array} \quad \begin{array}{r} 3 \\ + 2 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 7 \\ - 4 \\ \hline 3 \end{array} \quad \begin{array}{r} 5 \\ - 3 \\ \hline 2 \end{array} \quad \begin{array}{r} 7 \\ - 2 \\ \hline 5 \end{array} \quad \begin{array}{r} 7 \\ - 4 \\ \hline 3 \end{array} \quad \begin{array}{r} 5 \\ - 2 \\ \hline 3 \end{array} \quad \begin{array}{r} 7 \\ - 5 \\ \hline 2 \end{array}$$



7 s in the



4 s go away.

Put X on the s that go.

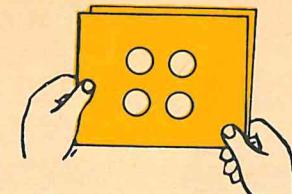
3 s are left in the .

$$\begin{array}{r} 7 \\ - 4 \\ \hline 3 \end{array}$$

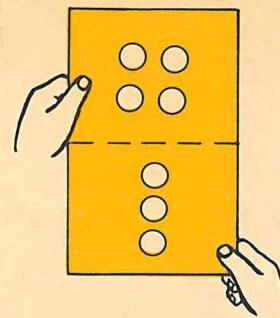
Visualizing related facts  $3 + 4 = 7$  and  $7 - 4 = 3$ . Children talk about the number story in the picture at the left; dramatize the story with objects; make a disk picture of the story;

then fill in the missing numbers. Follow a similar plan for  $7 - 4 = 3$ .

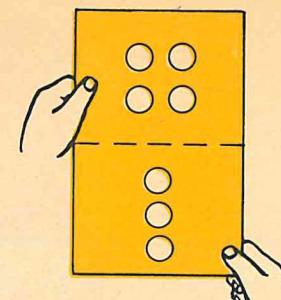
around as shown, they discover two more facts. They fill in all the missing numbers.



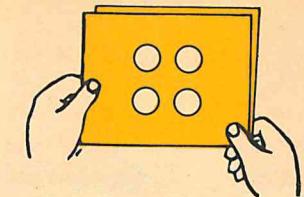
You see 4.



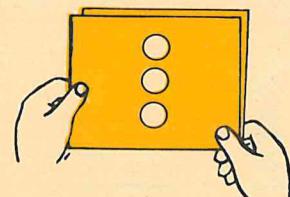
Open and see  $+3$ .  $\frac{4}{7}$



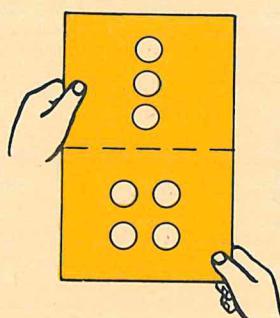
You see 7  
in all.



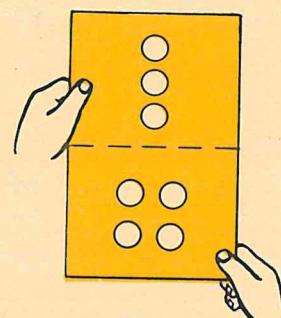
Close to show  $-3$ .  $\frac{7}{4}$



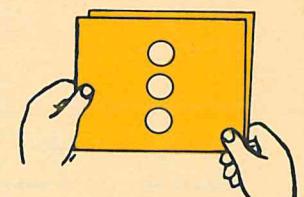
You see 3.



Open and see  $+4$ .  $\frac{3}{7}$



You see 7  
in all.



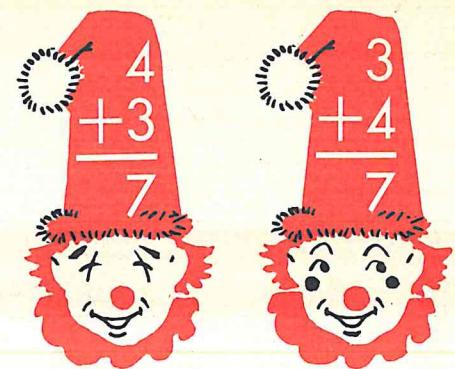
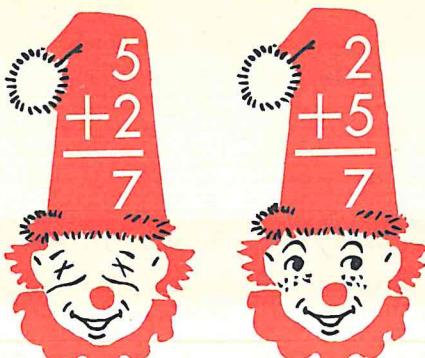
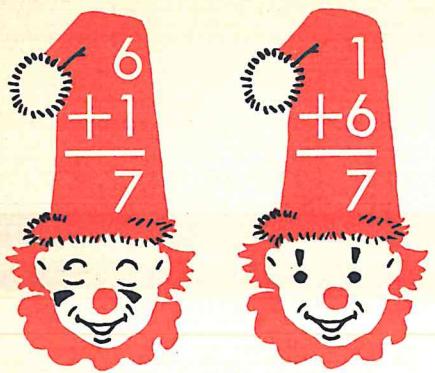
Close to show  $-4$ .  $\frac{7}{3}$

$$\begin{array}{r} 4 \\ + 3 \\ \hline 7 \end{array} \quad \begin{array}{r} 3 \\ + 4 \\ \hline 7 \end{array} \quad \begin{array}{r} 5 \\ + 1 \\ \hline 3 \end{array} \quad \begin{array}{r} 4 \\ + 3 \\ \hline 7 \end{array} \quad \begin{array}{r} 1 \\ + 5 \\ \hline 6 \end{array} \quad \begin{array}{r} 3 \\ + 4 \\ \hline 6 \end{array}$$

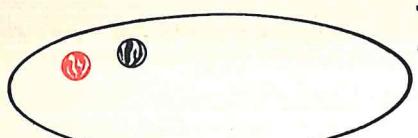
$$\begin{array}{r} 5 \\ + 2 \\ \hline 7 \end{array} \quad \begin{array}{r} 4 \\ + 3 \\ \hline 5 \end{array} \quad \begin{array}{r} 2 \\ + 4 \\ \hline 6 \end{array} \quad \begin{array}{r} 3 \\ + 4 \\ \hline 7 \end{array} \quad \begin{array}{r} 2 \\ + 5 \\ \hline 7 \end{array} \quad \begin{array}{r} 4 \\ + 2 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 7 \\ - 3 \\ \hline 4 \end{array} \quad \begin{array}{r} 7 \\ - 4 \\ \hline 3 \end{array} \quad \begin{array}{r} 6 \\ - 1 \\ \hline 5 \end{array} \quad \begin{array}{r} 7 \\ - 3 \\ \hline 4 \end{array} \quad \begin{array}{r} 6 \\ - 5 \\ \hline 1 \end{array} \quad \begin{array}{r} 7 \\ - 4 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 7 \\ - 2 \\ \hline 5 \end{array} \quad \begin{array}{r} 7 \\ - 3 \\ \hline 4 \end{array} \quad \begin{array}{r} 6 \\ - 4 \\ \hline 2 \end{array} \quad \begin{array}{r} 7 \\ - 4 \\ \hline 3 \end{array} \quad \begin{array}{r} 7 \\ - 5 \\ \hline 2 \end{array} \quad \begin{array}{r} 6 \\ - 2 \\ \hline 4 \end{array}$$



$\frac{1}{6} + \frac{6}{7} = \frac{12}{13}$	$\frac{6}{1} + \frac{1}{7} = \frac{43}{7}$	$\frac{4}{2} + \frac{2}{7} = \frac{30}{14}$	$\frac{1}{6} + \frac{6}{7} = \frac{43}{42}$	$\frac{2}{3} + \frac{3}{7} = \frac{17}{21}$	$\frac{6}{1} + \frac{1}{3} = \frac{19}{3}$	$\frac{5}{1} + \frac{1}{3} = \frac{16}{3}$	$\frac{1}{6} + \frac{6}{7} = \frac{43}{42}$	$\frac{2}{4} + \frac{4}{7} = \frac{18}{28}$	$\frac{3}{2} + \frac{2}{7} = \frac{23}{14}$	$\frac{6}{1} + \frac{1}{7} = \frac{43}{7}$	$\frac{1}{4} + \frac{4}{5} = \frac{21}{20}$	$\frac{2}{3} + \frac{3}{5} = \frac{19}{15}$	$\frac{3}{2} + \frac{2}{5} = \frac{17}{10}$
$\frac{2}{5} + \frac{5}{7} = \frac{27}{35}$	$\frac{5}{2} + \frac{2}{7} = \frac{37}{14}$	$\frac{3}{3} + \frac{3}{7} = \frac{27}{21}$	$\frac{2}{5} + \frac{5}{7} = \frac{37}{35}$	$\frac{3}{1} + \frac{1}{4} = \frac{13}{4}$	$\frac{5}{2} + \frac{2}{7} = \frac{37}{14}$	$\frac{1}{1} + \frac{1}{7} = \frac{8}{7}$	$\frac{5}{2} + \frac{2}{7} = \frac{37}{14}$	$\frac{1}{3} + \frac{3}{7} = \frac{10}{21}$	$\frac{2}{5} + \frac{5}{7} = \frac{37}{35}$	$\frac{1}{3} + \frac{3}{7} = \frac{10}{21}$	$\frac{2}{5} + \frac{5}{7} = \frac{37}{35}$	$\frac{1}{4} + \frac{4}{5} = \frac{21}{20}$	$\frac{2}{1} + \frac{1}{4} = \frac{9}{4}$
$\frac{3}{4} + \frac{3}{7} = \frac{27}{28}$	$\frac{4}{3} + \frac{3}{7} = \frac{31}{21}$	$\frac{2}{2} + \frac{2}{7} = \frac{14}{14}$	$\frac{3}{4} + \frac{3}{7} = \frac{31}{28}$	$\frac{1}{5} + \frac{5}{7} = \frac{32}{35}$	$\frac{4}{3} + \frac{3}{7} = \frac{31}{21}$	$\frac{1}{1} + \frac{1}{5} = \frac{6}{5}$	$\frac{4}{3} + \frac{3}{7} = \frac{31}{21}$	$\frac{3}{4} + \frac{3}{7} = \frac{32}{28}$	$\frac{1}{2} + \frac{2}{7} = \frac{15}{14}$	$\frac{4}{1} + \frac{1}{4} = \frac{17}{4}$	$\frac{1}{2} + \frac{2}{7} = \frac{15}{14}$	$\frac{4}{1} + \frac{1}{4} = \frac{17}{4}$	$\frac{1}{4} + \frac{4}{3} = \frac{19}{12}$



In the  os

Out of the  os

In all  os



s

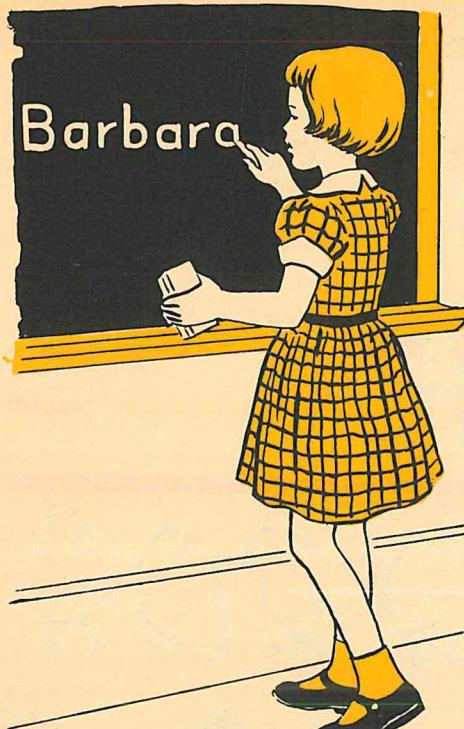


s

s in all

Testing addition number facts through the 7's. Children cover the clowns giving the facts and answers and refer to them only when they need to. This lesson can be used for oral responses in class before it is given as a written test.

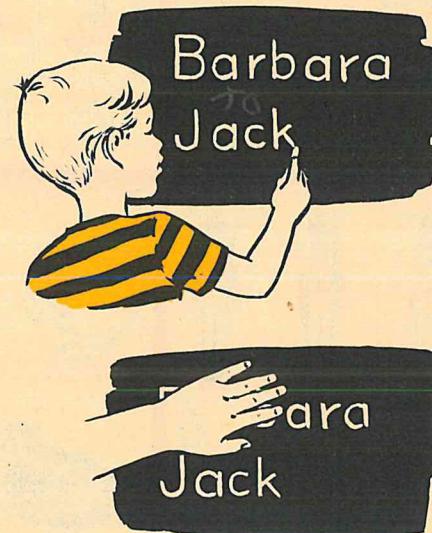
when they need to. This lesson can be used for oral responses in class before it is given as a written test.



How Many More?

B-

What name did Barbara write? Barbara



What name did Jack write? write

How many letters are

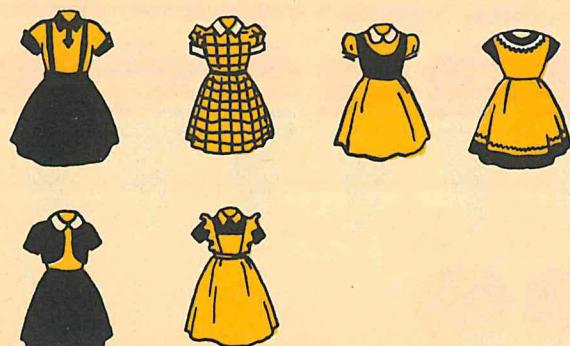
in his name? 4

See how Jack covers

the first 4 letters in Barbara's name.

How many more letters

are in Barbara's name?  $7 - 4 =$  3



Barbara's  
dresses 5

Sally's  
dresses 2



Sally's  
jacks 5

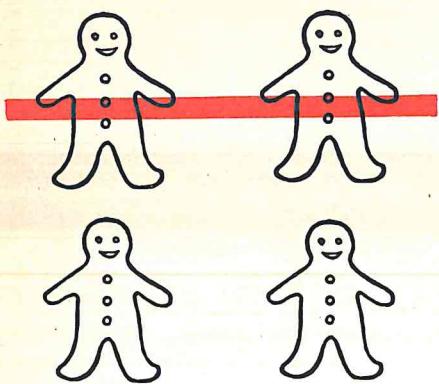


Barbara's  
jacks 1

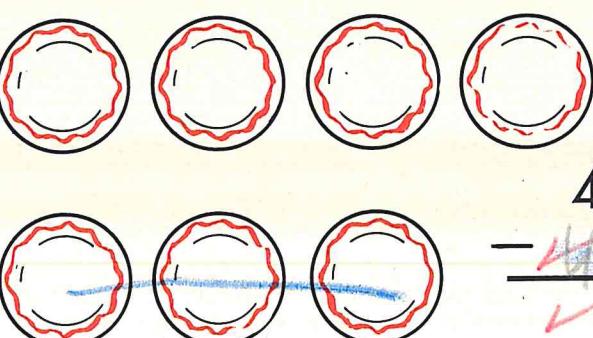
How many more dresses has Barbara? 3

How many more jacks has Sally? 1

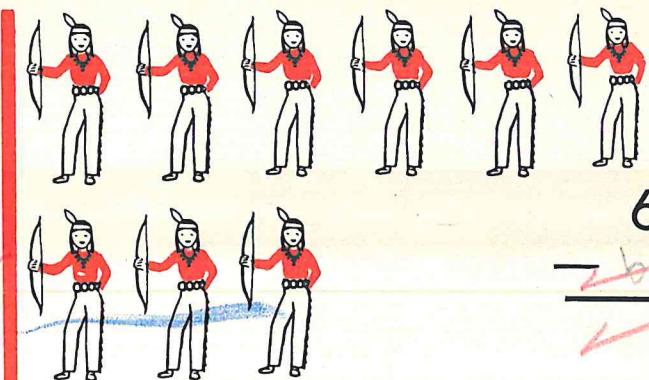
In each picture are two rows. How many more are in the top row?



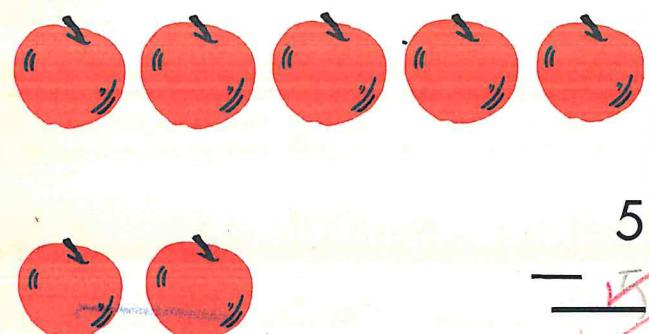
$$\begin{array}{r} 3 \\ - 2 \\ \hline \end{array}$$



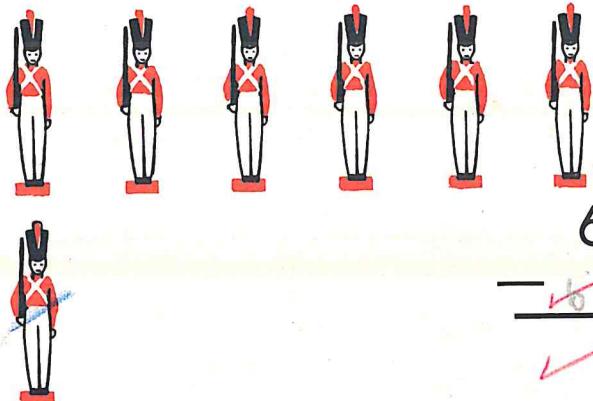
$$\begin{array}{r} 4 \\ - 3 \\ \hline \end{array}$$



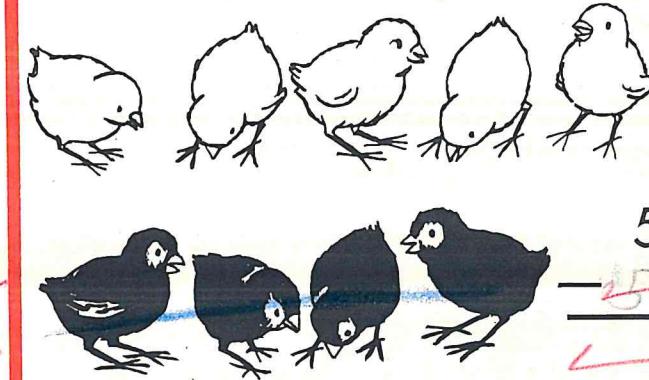
$$\begin{array}{r} 6 \\ - 4 \\ \hline \end{array}$$



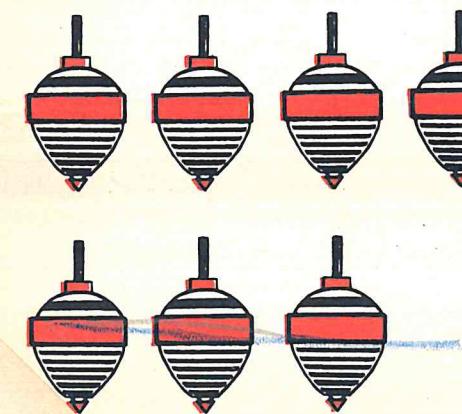
$$\begin{array}{r} 5 \\ - 2 \\ \hline \end{array}$$



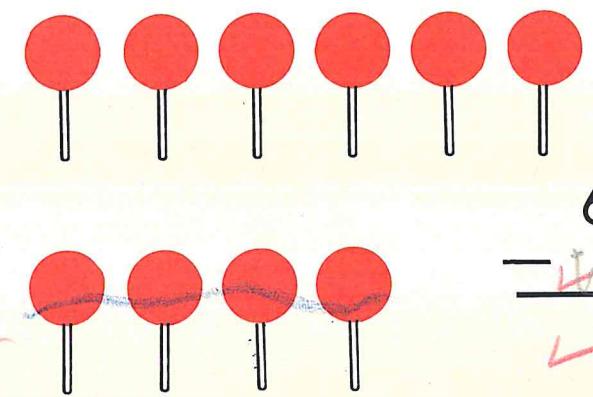
$$\begin{array}{r} 6 \\ - 1 \\ \hline \end{array}$$



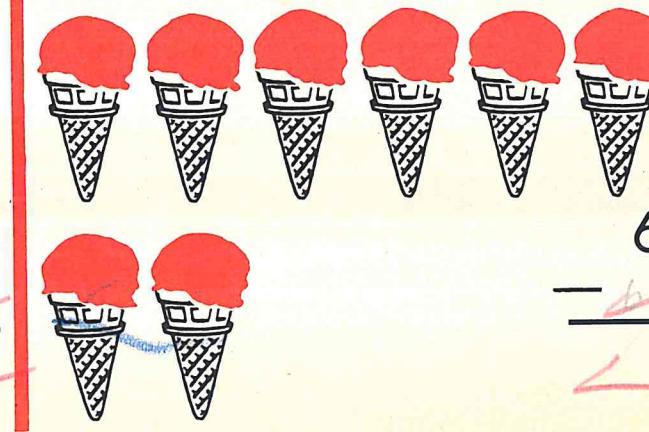
$$\begin{array}{r} 5 \\ - 3 \\ \hline \end{array}$$



$$\begin{array}{r} 5 \\ - 3 \\ \hline \end{array}$$



$$\begin{array}{r} 6 \\ - 4 \\ \hline \end{array}$$



$$\begin{array}{r} 6 \\ - 3 \\ \hline \end{array}$$

Continued practice in comparison by subtraction. Teach the children to count the number in the smaller group and draw a line through this smaller number of objects in the larger group

to see how many more. The children write the number fact for each picture.

fill in the missing numbers.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	32	33	34	35
36	37	38	39	40	41	42

1. second week

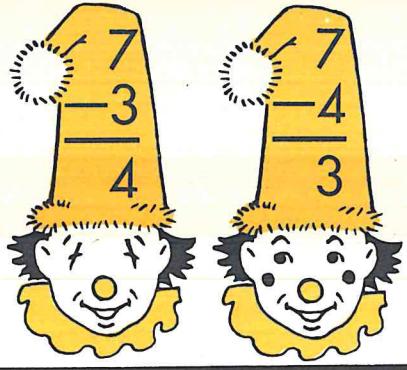
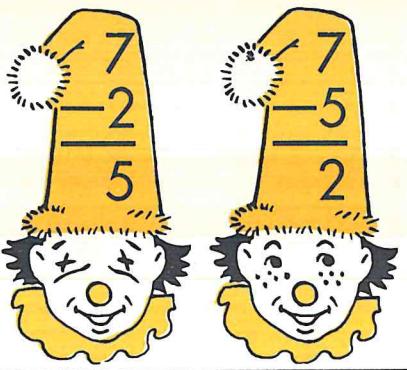
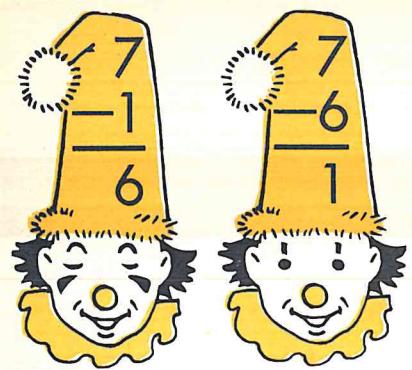
8      9      10      11      12      13      14

2. third week

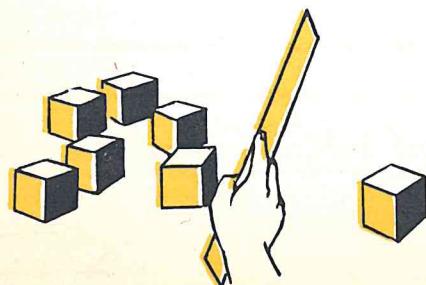
3. Mondays

4. Fridays

5. Saturdays



$\begin{array}{r} 7 \\ - 1 \\ \hline 6 \end{array}$	$\begin{array}{r} 7 \\ - 6 \\ \hline 1 \end{array}$	$\begin{array}{r} 5 \\ - 3 \\ \hline 2 \end{array}$	$\begin{array}{r} 7 \\ - 1 \\ \hline 6 \end{array}$	$\begin{array}{r} 4 \\ - 1 \\ \hline 3 \end{array}$	$\begin{array}{r} 7 \\ - 6 \\ \hline 1 \end{array}$	$\begin{array}{r} 3 \\ - 2 \\ \hline 1 \end{array}$	$\begin{array}{r} 7 \\ - 1 \\ \hline 6 \end{array}$	$\begin{array}{r} 6 \\ - 3 \\ \hline 3 \end{array}$	$\begin{array}{r} 5 \\ - 5 \\ \hline 0 \end{array}$	$\begin{array}{r} 7 \\ - 6 \\ \hline 1 \end{array}$	$\begin{array}{r} 6 \\ - 5 \\ \hline 1 \end{array}$
$\begin{array}{r} 7 \\ - 2 \\ \hline 5 \end{array}$	$\begin{array}{r} 7 \\ - 5 \\ \hline 2 \end{array}$	$\begin{array}{r} 6 \\ - 4 \\ \hline 2 \end{array}$	$\begin{array}{r} 7 \\ - 2 \\ \hline 5 \end{array}$	$\begin{array}{r} 5 \\ - 1 \\ \hline 4 \end{array}$	$\begin{array}{r} 7 \\ - 5 \\ \hline 2 \end{array}$	$\begin{array}{r} 2 \\ - 2 \\ \hline 0 \end{array}$	$\begin{array}{r} 7 \\ - 2 \\ \hline 5 \end{array}$	$\begin{array}{r} 3 \\ - 1 \\ \hline 2 \end{array}$	$\begin{array}{r} 5 \\ - 4 \\ \hline 1 \end{array}$	$\begin{array}{r} 7 \\ - 5 \\ \hline 2 \end{array}$	$\begin{array}{r} 6 \\ - 5 \\ \hline 1 \end{array}$
$\begin{array}{r} 7 \\ - 3 \\ \hline 4 \end{array}$	$\begin{array}{r} 7 \\ - 4 \\ \hline 3 \end{array}$	$\begin{array}{r} 7 \\ - 7 \\ \hline 0 \end{array}$	$\begin{array}{r} 7 \\ - 3 \\ \hline 4 \end{array}$	$\begin{array}{r} 6 \\ - 5 \\ \hline 1 \end{array}$	$\begin{array}{r} 7 \\ - 4 \\ \hline 3 \end{array}$	$\begin{array}{r} 7 \\ - 7 \\ \hline 0 \end{array}$	$\begin{array}{r} 6 \\ - 2 \\ \hline 4 \end{array}$	$\begin{array}{r} 7 \\ - 3 \\ \hline 4 \end{array}$	$\begin{array}{r} 4 \\ - 4 \\ \hline 0 \end{array}$	$\begin{array}{r} 7 \\ - 4 \\ \hline 3 \end{array}$	$\begin{array}{r} 5 \\ - 3 \\ \hline 2 \end{array}$



$\begin{array}{r} 7 \\ \hline \end{array}$  s in all  
 $\begin{array}{r} 6 \\ \hline \end{array}$  s I take.  
 $\begin{array}{r} 1 \\ \hline \end{array}$  is left.



$\begin{array}{r} 7 \\ \hline \end{array}$  balls in all  
 $\begin{array}{r} 2 \\ \hline \end{array}$  balls I take.  
 $\begin{array}{r} 5 \\ \hline \end{array}$  balls are left.

Testing subtraction number facts through the 7's. Children cover the clowns giving the facts and answers and refer to them only, when they need to. This lesson can be used for oral responses in class before it is given as a written test.



Ann had 7 paper s.

Ann made 1 more.

Circle all the paper s.

Ann has 8 s in all.

$$\begin{array}{r} 7 \\ + 1 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 7 \\ + 2 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 4 \\ + 2 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 2 \\ + 5 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 7 \\ + 1 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 2 \\ + 4 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 5 \\ + 2 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 8 \\ - 1 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 6 \\ - 2 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 7 \\ - 2 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 8 \\ - 1 \\ \hline 7 \end{array}$$

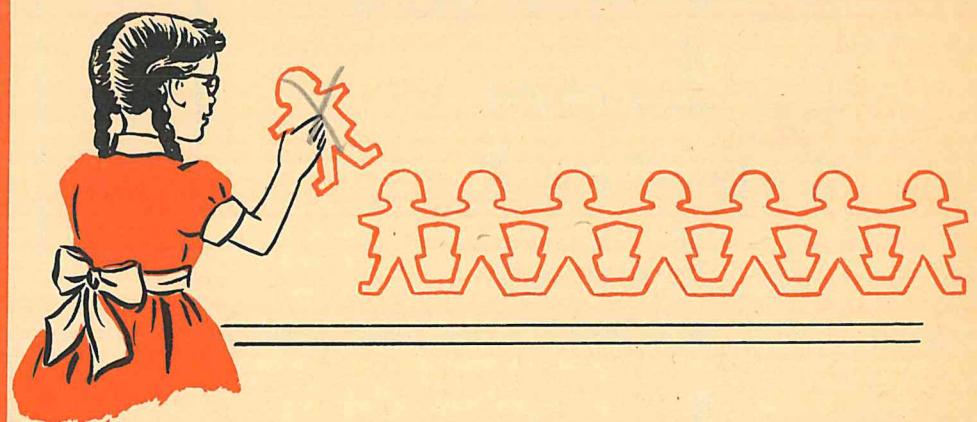
$$\begin{array}{r} 7 \\ - 5 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 6 \\ - 4 \\ \hline 2 \end{array}$$

B-



Ann has 8 paper s.



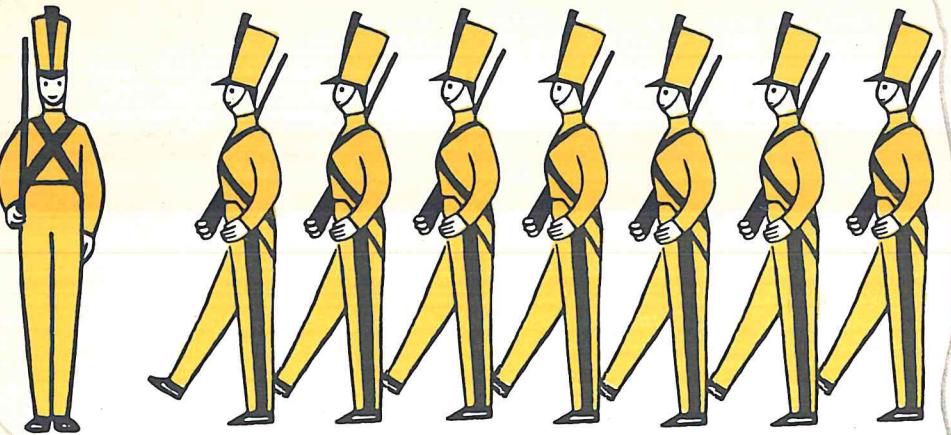
Ann takes away 1 .

Put X on the Ann takes.

7 s are left.

$$\begin{array}{r} 8 \\ - 1 \\ \hline 7 \end{array}$$

C



1 stands alone.

7 s come.

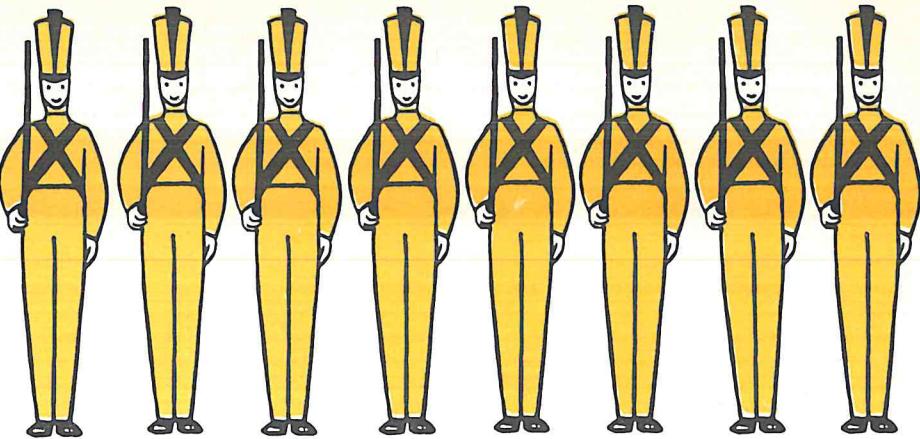
Circle all the s.

8 s in all

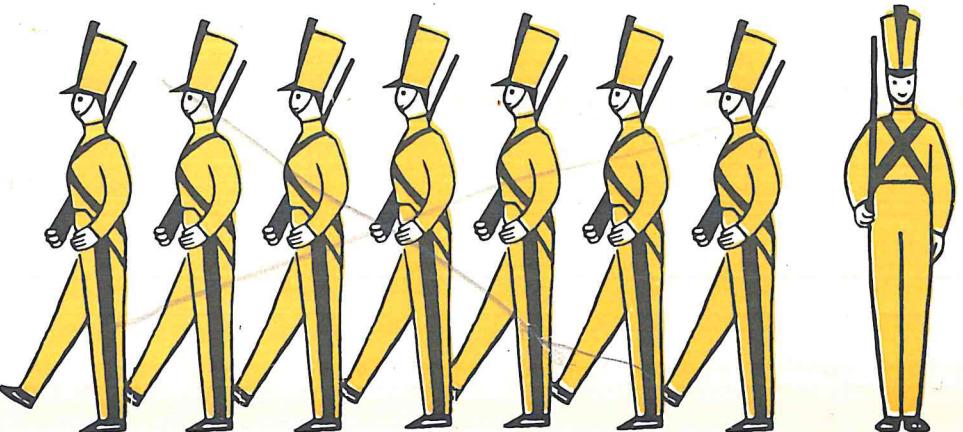
$$\begin{array}{r} 1 \\ + 7 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 1 \\ + 7 \\ \hline 8 \end{array} \quad \begin{array}{r} 5 \\ + 1 \\ \hline 3 \end{array} \quad \begin{array}{r} 3 \\ + 4 \\ \hline 6 \end{array} \quad \begin{array}{r} 1 \\ + 5 \\ \hline 7 \end{array} \quad \begin{array}{r} 4 \\ + 3 \\ \hline 6 \end{array} \quad \begin{array}{r} 1 \\ + 7 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 8 \\ - 7 \\ \hline 1 \end{array} \quad \begin{array}{r} 7 \\ - 4 \\ \hline 3 \end{array} \quad \begin{array}{r} 6 \\ - 1 \\ \hline 5 \end{array} \quad \begin{array}{r} 8 \\ - 7 \\ \hline 1 \end{array} \quad \begin{array}{r} 6 \\ - 5 \\ \hline 1 \end{array} \quad \begin{array}{r} 7 \\ - 3 \\ \hline 4 \end{array}$$



8 s in all



1 s march away.

Put X on the s that go.

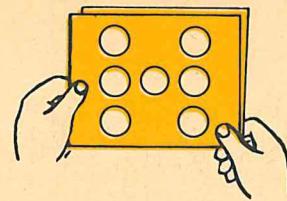
1 is left.

$$\begin{array}{r} 8 \\ - 7 \\ \hline 1 \end{array}$$

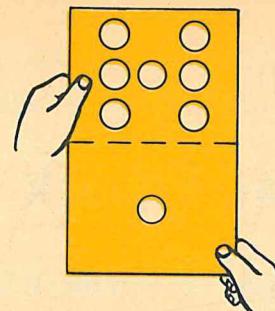
Visualizing related facts  $1 + 7 = 8$  and  $8 - 7 = 1$ . Children talk about the number story in the picture at the left; dramatize the story with objects; make a disk picture of the story;

then fill in the missing numbers. Follow a similar plan for  $8 - 7 = 1$ .

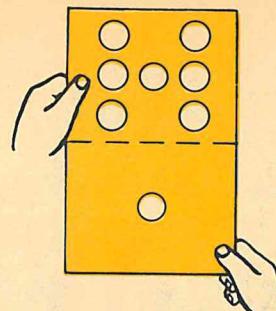
around as shown, they discover two more facts. They fill in all the missing numbers.



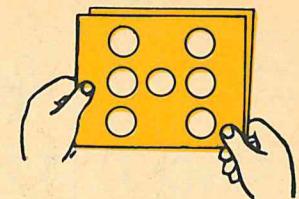
You see 7.



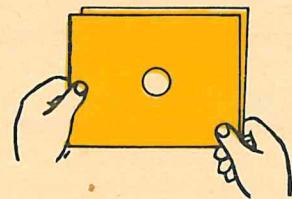
Open and see +1.



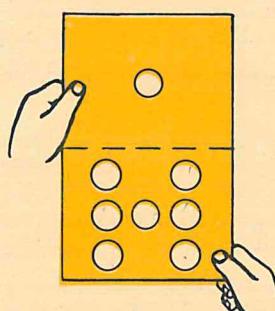
You see 6  
in all.



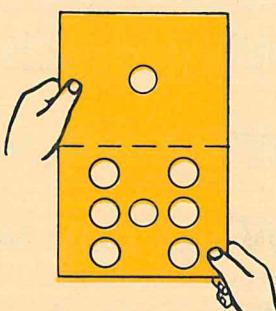
Close to show -1.



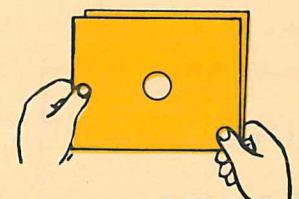
You see 1.



Open and see +7.



You see 8  
in all.



Close to show -7.

$$\begin{array}{r} 7 \\ + 1 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 1 \\ + 7 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 4 \\ + 3 \\ \hline 16 \end{array}$$

$$\begin{array}{r} 7 \\ + 1 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 3 \\ + 4 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 1 \\ + 7 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 8 \\ - 1 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 8 \\ - 7 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 7 \\ - 3 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 8 \\ - 1 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 7 \\ - 4 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 8 \\ - 7 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 5 \\ + 2 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 7 \\ + 1 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 1 \\ + 6 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 2 \\ + 5 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 1 \\ + 7 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 6 \\ + 1 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 7 \\ - 2 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 8 \\ - 1 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 7 \\ - 6 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 8 \\ - 5 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 7 \\ - 7 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 7 \\ - 1 \\ \hline 6 \end{array}$$

D

May						
S	M	T	W	Th	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				



## The Days of the Week

1. Days in 1 week ✓ in 2 weeks ✗
2. Days in 3 weeks ✓ in 4 weeks ✗
3. Days in May ✓

Sunday  
 Monday  
Tuesday  
 Wednesday  
 Thursday  
 Friday  
 Saturday



4. What day is today? Wednesday
5. What day will tomorrow be? Tuesday
6. What day was yesterday? Friday
7. One week has ✓ school days.
8. Draw a line under each school day. ✓
9. Write the names of the school days. ✓

✓      ✓      ✓

✓      ✓

10. Write the days you do not go to school.

✓      ✓

then fill in the missing numbers. Follow a similar plan for  
 $8 - 2 = 6$ .

talk about the number story in the picture at the left; dramatize the story with objects; make a disk picture of the story;

8 s are eating.  
2 s come.  
 Circle all the  s.  
8 s in all

$$\begin{array}{r} 6 \\ + 2 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 2 \\ + 4 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 4 \\ + 1 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 6 \\ + 2 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 1 \\ + 4 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 4 \\ + 2 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 8 \\ - 2 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 6 \\ - 4 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 5 \\ - 1 \\ \hline 4 \end{array}$$

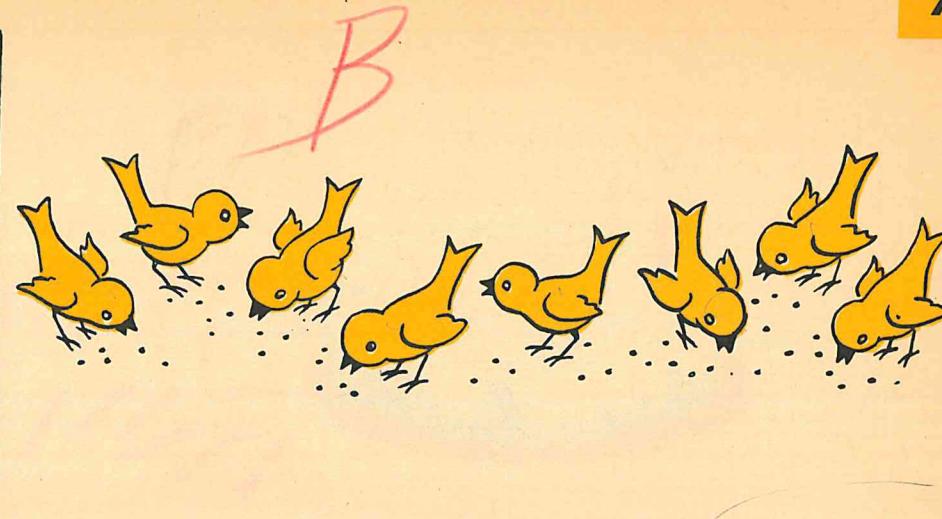
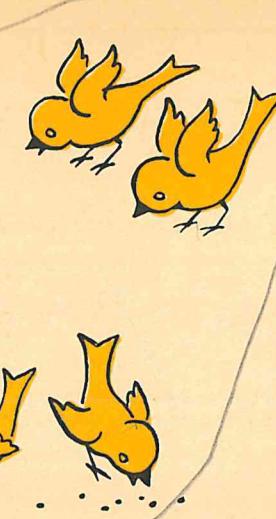
$$\begin{array}{r} 8 \\ - 2 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 6 \\ - 2 \\ \hline 4 \end{array}$$

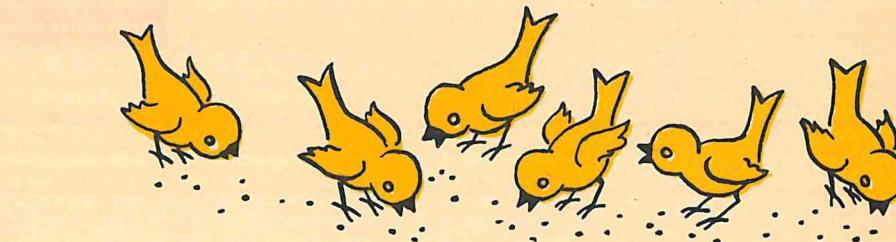
$$\begin{array}{r} 5 \\ - 4 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 6 \\ - 2 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 4 \\ - 2 \\ \hline 2 \end{array}$$



8 s in all

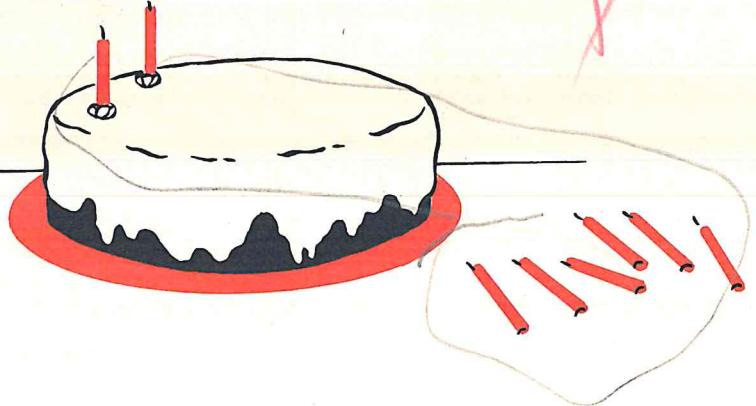


2 s fly away.

Put X on the  s that go.

6 s are left.

$$\begin{array}{r} 8 \\ - 2 \\ \hline 6 \end{array}$$



2 ↗ s on the

6 ↗ s on the table

Circle all the ↗ s.

8 ↗ s in all

$$\begin{array}{r} 2 \\ + 6 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 2 \\ + 3 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 3 \\ + 4 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 3 \\ + 2 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 2 \\ + 6 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 4 \\ + 3 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 8 \\ - 6 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 7 \\ - 4 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 5 \\ - 3 \\ \hline 2 \end{array}$$

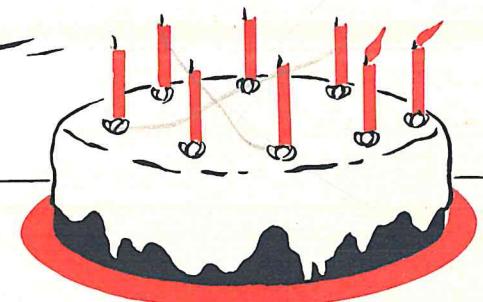
$$\begin{array}{r} 7 \\ - 3 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 8 \\ - 6 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 5 \\ - 2 \\ \hline 3 \end{array}$$



Mother lit 8 ↗ s on the



Bob blows out 6 ↗ s.

Put X on the ↗ s he blows out.

2 ↗ s are left to blow out.

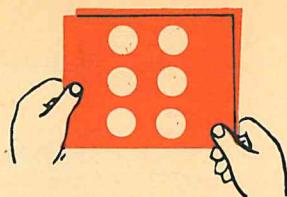
$$\begin{array}{r} 8 \\ - 6 \\ \hline 2 \end{array}$$

Visualizing related facts  $2 + 6 = 8$  and  $8 - 6 = 2$ . Children talk about the number story in the picture at the left; dramatize the story with objects; make a disk picture of the story;

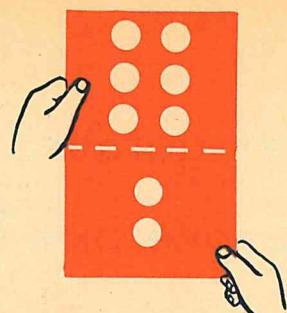
then fill in the missing numbers. Follow a similar plan for  $8 - 6 = 2$ .

around as shown, they discover two more facts. They then fill in all the missing numbers.

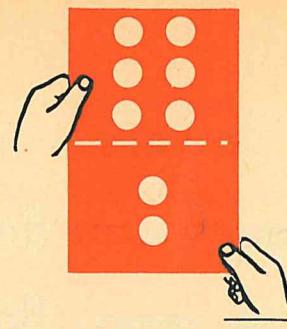
**Two facts** Unlaren study the first row of folding perception cards. Using a folded paper as shown, they discover two facts. By turning the folded paper



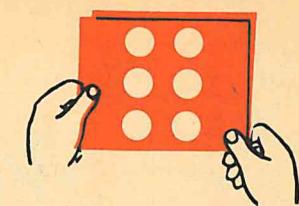
You see b.



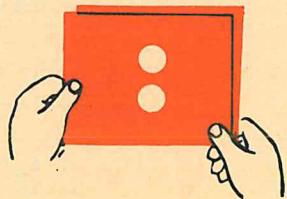
Open and see +2  
6  
8



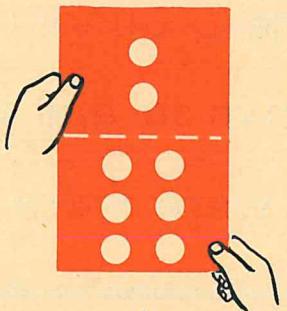
You see 8  
in all.



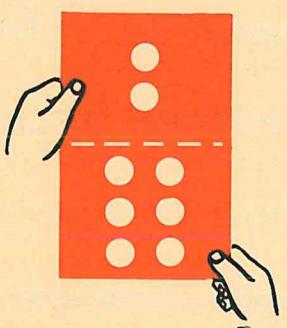
Close to show -2<sup>8</sup>.



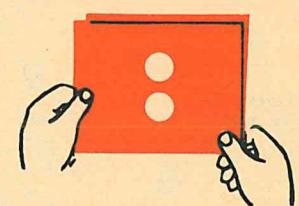
You see z.



Open and see +6.



You see 8  
in all.



Close to show -6.

$\begin{array}{r} 6 \\ + 2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ + 6 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ + 3 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ + 2 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ + 4 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ + 6 \\ \hline \end{array}$
$\checkmark$	$\cancel{8}$	$\cancel{6}$	$\cancel{7}$	$\cancel{8}$	$\cancel{7}$
$\begin{array}{r} 5 \\ + 2 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ + 1 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ + 6 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ + 5 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ + 7 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ + 2 \\ \hline \end{array}$
$\checkmark$	$\cancel{8}$	$\cancel{8}$	$\cancel{?}$	$\cancel{6}$	$\cancel{3}$

$$\begin{array}{r} 8 \\ - 2 \\ \hline 6 \end{array} \quad \begin{array}{r} 8 \\ - 6 \\ \hline 2 \end{array} \quad \begin{array}{r} 7 \\ - 3 \\ \hline 4 \end{array} \quad \begin{array}{r} 8 \\ - 2 \\ \hline 6 \end{array} \quad \begin{array}{r} 7 \\ - 4 \\ \hline 3 \end{array} \quad \begin{array}{r} 8 \\ - 6 \\ \hline 2 \end{array}$$
  
$$\begin{array}{r} 7 \\ - 2 \\ \hline 5 \end{array} \quad \begin{array}{r} 8 \\ - 1 \\ \hline 6 \end{array} \quad \begin{array}{r} 8 \\ - 6 \\ \hline 2 \end{array} \quad \begin{array}{r} 7 \\ - 5 \\ \hline 6 \end{array} \quad \begin{array}{r} 8 \\ - 7 \\ \hline 1 \end{array} \quad \begin{array}{r} 8 \\ - 2 \\ \hline 6 \end{array}$$



P

8 flowers were in Jane's garden.

How many flowers did Jane pick? 2How many flowers are left? 6

8 flowers

— 2 flowersX flowersI saw 4 birds on the ground.

Another bird came down to eat seeds.

Then how many birds were there in all? 5

5 birds

+ 1 bird✓ birds

6 pictures were on the table.

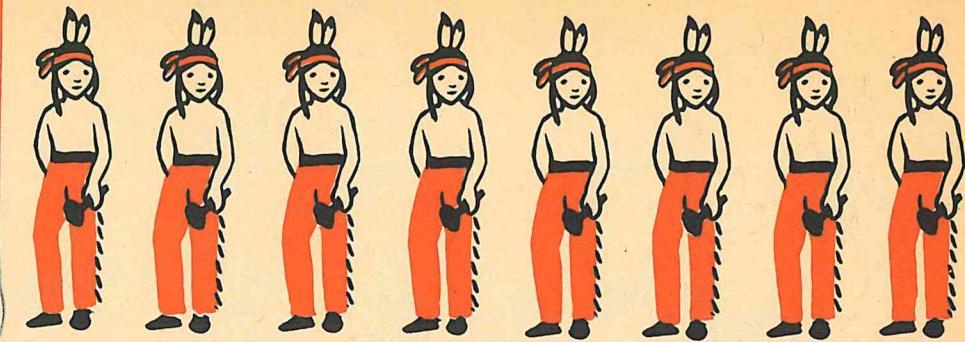
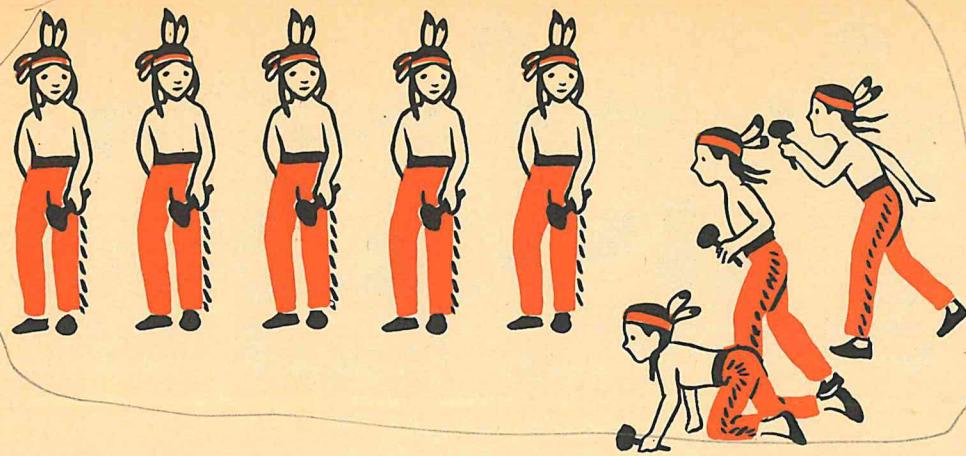
How many pictures did Sally take? 3How many pictures are left? 3

6 pictures

— 3 pictures✓ pictures

$$\begin{array}{r}
 7 & 5 & 2 & 1 & 2 & 6 \\
 + 1 & + 2 & + 6 & + 7 & + 5 & + 2 \\
 \hline
 8 & 7 & 8 & 8 & 7 & 8
 \end{array}$$

$$\begin{array}{r}
 8 & 7 & 8 & 7 & 7 & 2 \\
 - 2 & - 6 & - 7 & - 5 & - 5 \\
 \hline
 6 & 2 & 1 & 2 & 2 & 4
 \end{array}$$



A-

5 s in a row

3 more s come.

Circle all the s.

8 s in all

$$\begin{array}{r} 5 \\ + 3 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 1 \\ + 6 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 6 \\ + 2 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 5 \\ + 3 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 6 \\ + 1 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 2 \\ + 6 \\ \hline 8 \end{array}$$



3 s go away.

Put X on the s who go.

5 s are left.

$$\begin{array}{r} 8 \\ - 3 \\ \hline 5 \end{array}$$



3 children are reading.

5 children come to read.

Circle all the children.

8 children in all

$$\begin{array}{r} 3 \\ + 5 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 3 \\ + 5 \\ \hline 8 \end{array} \quad \begin{array}{r} 1 \\ + 7 \\ \hline 8 \end{array} \quad \begin{array}{r} 2 \\ + 4 \\ \hline 6 \end{array} \quad \begin{array}{r} 7 \\ + 1 \\ \hline 8 \end{array} \quad \begin{array}{r} 3 \\ + 5 \\ \hline 8 \end{array} \quad \begin{array}{r} 4 \\ + 2 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 8 \\ - 5 \\ \hline 3 \end{array} \quad \begin{array}{r} 8 \\ - 7 \\ \hline 1 \end{array} \quad \begin{array}{r} 6 \\ - 4 \\ \hline 2 \end{array} \quad \begin{array}{r} 8 \\ - 1 \\ \hline 7 \end{array} \quad \begin{array}{r} 8 \\ - 5 \\ \hline 3 \end{array} \quad \begin{array}{r} 6 \\ - 2 \\ \hline 4 \end{array}$$



8 children in all are reading.



3 children go away.

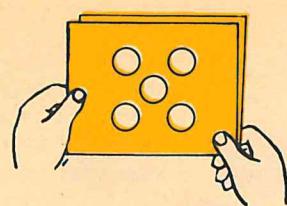
Put X on the children who go.

3 children are left.

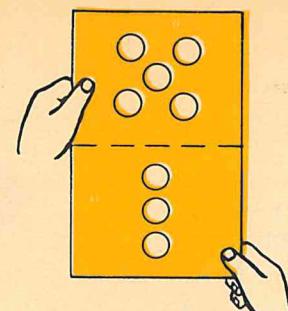
$$\begin{array}{r} 8 \\ - 5 \\ \hline 3 \end{array}$$

Visualizing related facts  $3 + 5 = 8$  and  $8 - 5 = 3$ . Children talk about the number story in the picture at the left; dramatize the story with objects; make a disk picture of the story;

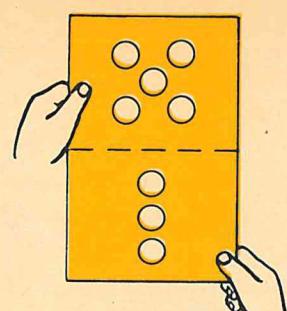
then fill in the missing numbers. Follow a similar plan for  $8 - 5 = 3$ .



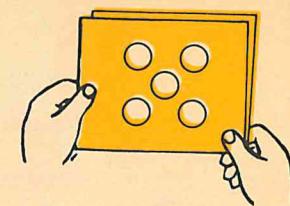
You see 5.



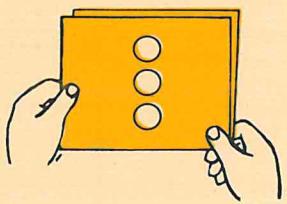
Open and see  $\begin{array}{r} +3 \\ \hline 8 \end{array}$ .



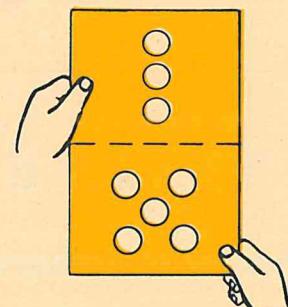
You see 8  
in all.



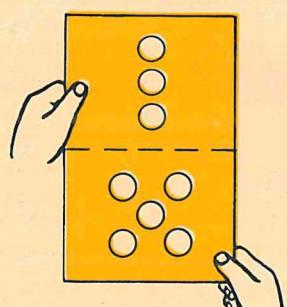
Close to show  $\begin{array}{r} -3 \\ \hline 5 \end{array}$ .



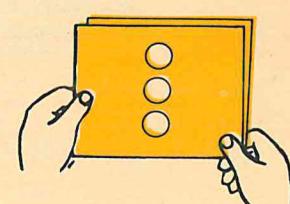
You see 3.



Open and see  $\begin{array}{r} +5 \\ \hline 8 \end{array}$ .



You see 8  
in all.



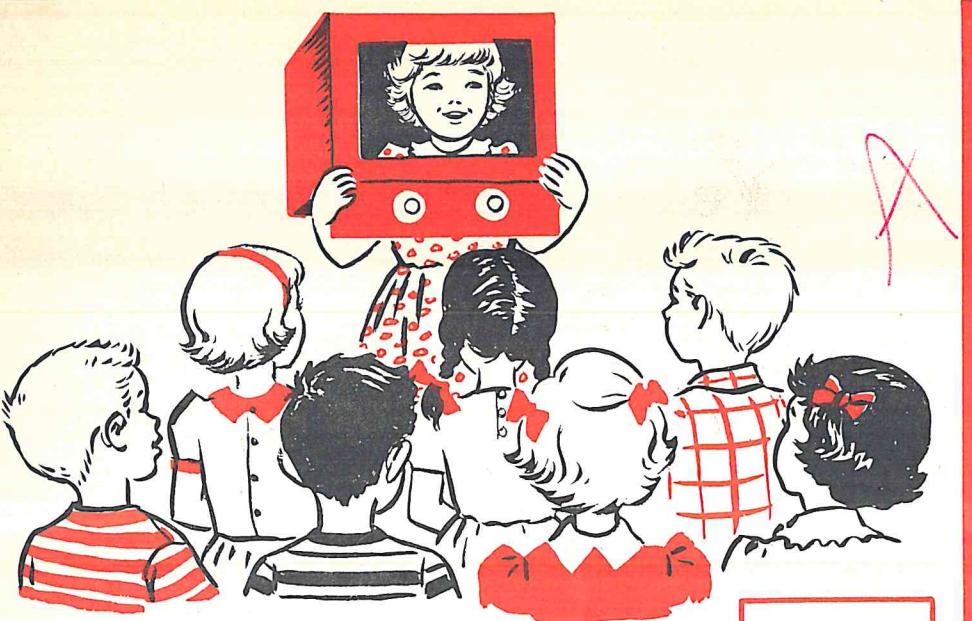
Close to show  $\begin{array}{r} -5 \\ \hline 3 \end{array}$ .

$$\begin{array}{r} +5 \\ +3 \\ \hline 8 \end{array} \quad \begin{array}{r} +3 \\ +5 \\ \hline 8 \end{array} \quad \begin{array}{r} +6 \\ +1 \\ \hline 7 \end{array} \quad \begin{array}{r} +5 \\ +3 \\ \hline 8 \end{array} \quad \begin{array}{r} +1 \\ +6 \\ \hline 7 \end{array} \quad \begin{array}{r} +3 \\ +5 \\ \hline 8 \end{array}$$

$$\begin{array}{r} +2 \\ +5 \\ \hline 7 \end{array} \quad \begin{array}{r} +5 \\ +3 \\ \hline 8 \end{array} \quad \begin{array}{r} +3 \\ +4 \\ \hline 9 \end{array} \quad \begin{array}{r} +5 \\ +2 \\ \hline 7 \end{array} \quad \begin{array}{r} +3 \\ +5 \\ \hline 8 \end{array} \quad \begin{array}{r} +4 \\ +3 \\ \hline 7 \end{array}$$

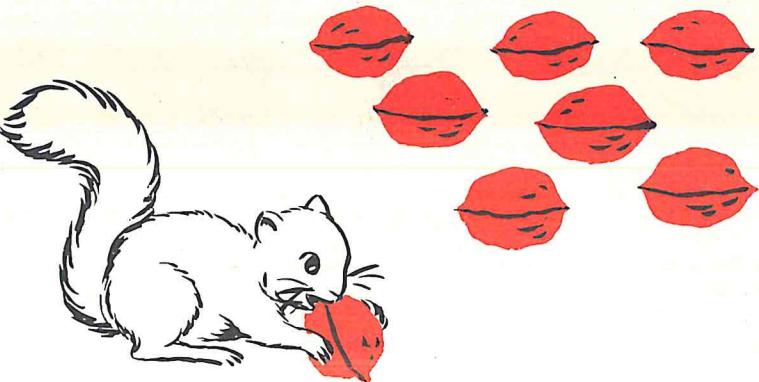
$$\begin{array}{r} -8 \\ -3 \\ \hline 5 \end{array} \quad \begin{array}{r} -8 \\ -5 \\ \hline 3 \end{array} \quad \begin{array}{r} -7 \\ -1 \\ \hline 6 \end{array} \quad \begin{array}{r} -8 \\ -3 \\ \hline 5 \end{array} \quad \begin{array}{r} -7 \\ -6 \\ \hline 1 \end{array} \quad \begin{array}{r} -8 \\ -5 \\ \hline 3 \end{array}$$

$$\begin{array}{r} -7 \\ -5 \\ \hline 2 \end{array} \quad \begin{array}{r} -8 \\ -3 \\ \hline 5 \end{array} \quad \begin{array}{r} -7 \\ -4 \\ \hline 4 \end{array} \quad \begin{array}{r} -7 \\ -2 \\ \hline 5 \end{array} \quad \begin{array}{r} -8 \\ -5 \\ \hline 3 \end{array} \quad \begin{array}{r} -7 \\ -3 \\ \hline 4 \end{array}$$



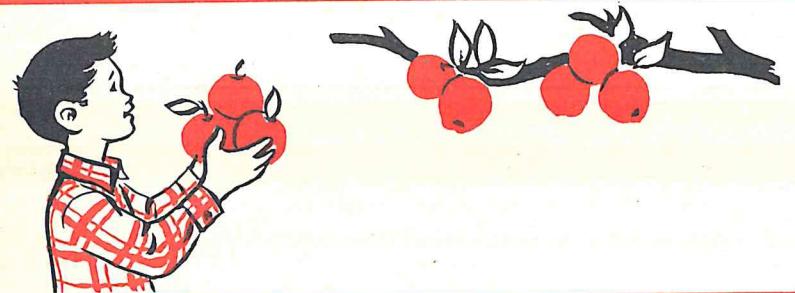
- 1 child gives a TV show.
- 7 children see the show.
- 8 children in all

$$\begin{array}{r} 1 \\ + 7 \\ \hline \end{array}$$



8 s for a .  
The takes 1 .  
7 s are left.

$$\begin{array}{r} 8 \\ - 1 \\ \hline 7 \end{array}$$



8 apples were on the branch.  
Jack took 3 apples.  
How many apples are left? 5

$$\begin{array}{r} 8 \\ - 3 \\ \hline 5 \end{array}$$

$\begin{array}{r} 5 \\ + 3 \\ \hline 8 \end{array}$	$\begin{array}{r} 3 \\ + 4 \\ \hline 7 \end{array}$	$\begin{array}{r} 6 \\ + 2 \\ \hline 8 \end{array}$	$\begin{array}{r} 3 \\ + 5 \\ \hline 8 \end{array}$	$\begin{array}{r} 4 \\ + 3 \\ \hline 7 \end{array}$	$\begin{array}{r} 2 \\ + 6 \\ \hline 8 \end{array}$	$\begin{array}{r} 8 \\ - 3 \\ \hline 5 \end{array}$	$\begin{array}{r} 7 \\ - 4 \\ \hline 3 \end{array}$	$\begin{array}{r} 8 \\ - 2 \\ \hline 6 \end{array}$	$\begin{array}{r} 8 \\ - 5 \\ \hline 3 \end{array}$	$\begin{array}{r} 7 \\ - 3 \\ \hline 4 \end{array}$	$\begin{array}{r} 8 \\ - 6 \\ \hline 2 \end{array}$
---	---	---	---	---	---	---	---	---	---	---	---

A



4 boys play with a  $\odot$ .

$$\begin{array}{r} + 4 \\ \hline 8 \end{array}$$

4 more boys come.

Circle all the boys.

8 boys in all

$$\begin{array}{r} + 4 \\ + 4 \\ \hline 8 \end{array} \quad \begin{array}{r} + 5 \\ + 3 \\ \hline 8 \end{array} \quad \begin{array}{r} + 4 \\ + 3 \\ \hline 7 \end{array} \quad \begin{array}{r} + 3 \\ + 5 \\ \hline 8 \end{array} \quad \begin{array}{r} + 4 \\ + 4 \\ \hline 8 \end{array} \quad \begin{array}{r} + 3 \\ + 4 \\ \hline 7 \end{array}$$

$$\begin{array}{r} - 8 \\ - 3 \\ \hline 4 \end{array} \quad \begin{array}{r} - 8 \\ - 3 \\ \hline 5 \end{array} \quad \begin{array}{r} - 7 \\ - 4 \\ \hline 3 \end{array} \quad \begin{array}{r} - 8 \\ - 5 \\ \hline 3 \end{array} \quad \begin{array}{r} - 7 \\ - 3 \\ \hline 4 \end{array} \quad \begin{array}{r} - 8 \\ - 4 \\ \hline 4 \end{array}$$



8 boys play with a  $\odot$ .

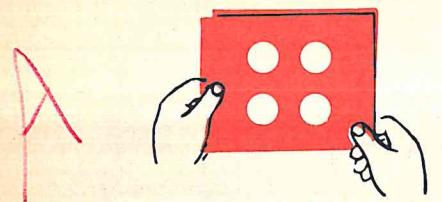


4 boys go away.

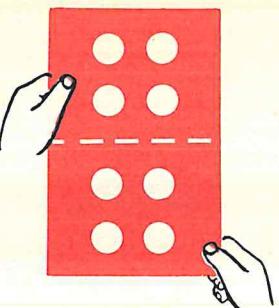
Put X on the boys who go.

4 boys are left to play.

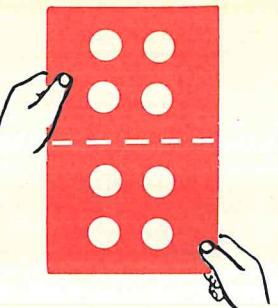
$$\begin{array}{r} - 8 \\ - 4 \\ \hline 4 \end{array}$$



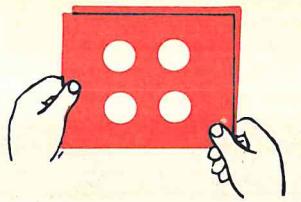
You see 4.



Open and see  $\begin{array}{r} + 4 \\ \hline 8 \end{array}$ .



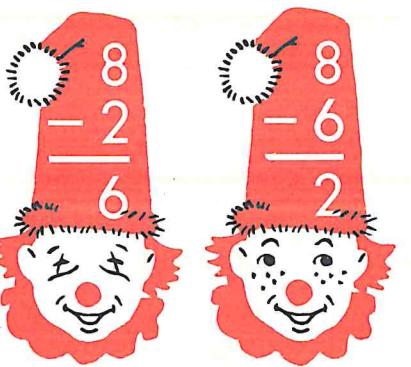
You see 8  
in all.



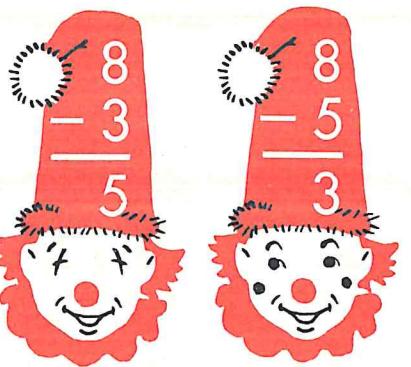
Close to show  $\begin{array}{r} - 4 \\ \hline 4 \end{array}$ .



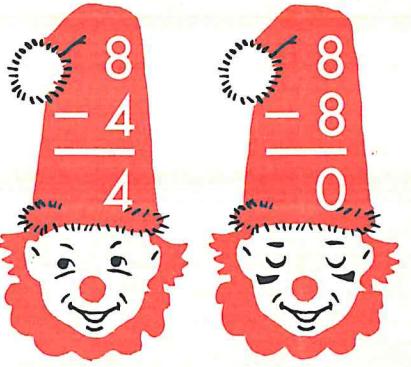
$$\begin{array}{r} 8 \\ - 1 \\ \hline 7 \end{array}$$



$$\begin{array}{r} 8 \\ - 2 \\ \hline 6 \end{array}$$



$$\begin{array}{r} 8 \\ - 3 \\ \hline 5 \end{array}$$



$$\begin{array}{r} 8 \\ - 4 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 8 \\ - 2 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 8 \\ - 2 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 8 \\ - 4 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 8 \\ - 2 \\ \hline 6 \end{array}$$

Very good, Randy!



A



$$\begin{array}{r} 4 \\ + 2 \\ \hline b \end{array} \quad \begin{array}{r} 3 \\ + 4 \\ \hline 7 \end{array} \quad \begin{array}{r} 5 \\ + 1 \\ \hline 6 \end{array} \quad \begin{array}{r} 7 \\ + 1 \\ \hline 8 \end{array} \quad \begin{array}{r} 2 \\ + 5 \\ \hline 7 \end{array} \quad \begin{array}{r} 6 \\ + 2 \\ \hline 8 \end{array} \quad \begin{array}{r} 4 \\ + 4 \\ \hline 8 \end{array} \quad \begin{array}{r} 5 \\ + 3 \\ \hline 8 \end{array} \quad \begin{array}{r} 1 \\ + 6 \\ \hline 7 \end{array} \quad \begin{array}{r} 4 \\ + 1 \\ \hline 5 \end{array} \quad \begin{array}{r} 7 \\ + 1 \\ \hline 8 \end{array} \quad \begin{array}{r} 2 \\ + 6 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 1 \\ + 7 \\ \hline 8 \end{array} \quad \begin{array}{r} 5 \\ + 2 \\ \hline 7 \end{array} \quad \begin{array}{r} 2 \\ + 6 \\ \hline 8 \end{array} \quad \begin{array}{r} 3 \\ + 5 \\ \hline 8 \end{array} \quad \begin{array}{r} 6 \\ + 1 \\ \hline 7 \end{array} \quad \begin{array}{r} 1 \\ + 4 \\ \hline 5 \end{array} \quad \begin{array}{r} 1 \\ + 7 \\ \hline 8 \end{array} \quad \begin{array}{r} 6 \\ + 2 \\ \hline 8 \end{array} \quad \begin{array}{r} 4 \\ + 4 \\ \hline 8 \end{array} \quad \begin{array}{r} 5 \\ + 3 \\ \hline 8 \end{array} \quad \begin{array}{r} 3 \\ + 3 \\ \hline 6 \end{array} \quad \begin{array}{r} 3 \\ + 5 \\ \hline 8 \end{array}$$



Jane cut these.



Sally cut these.

Jane's dolls 5Sally's dolls 3Dolls in all 8

8 ○s were on a ○.

Bob took 2 ○ s.6 ○ s are left.



B'

The man wants to paint 6 posts.

He has painted 3 posts.

He needs to paint 3 more posts.



I want to fill 8 cones in all.

I have filled 6 cones.

I need to fill 2 more cones.

$$3 \text{ tens and } 6 \text{ ones} = \underline{\quad} \underline{6}$$

$$5 \text{ tens and } 0 \text{ ones} = \underline{\quad} \underline{50}$$

$$7 \text{ tens and } 5 \text{ ones} = \underline{\quad} \underline{75}$$



Ann wants to paint 7 dolls.

She has painted 3 dolls.

She needs to paint 4 more dolls.



We want 8 chairs for these boys.

We have 5 chairs.

We need 3 more chairs.

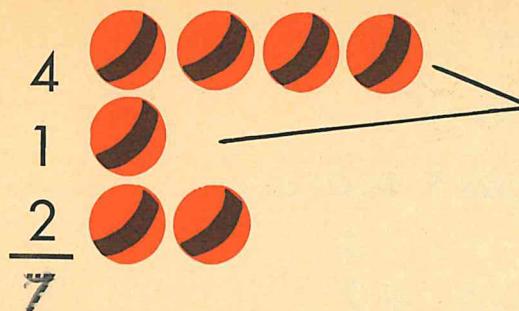
$$64 = \underline{\quad} \underline{6} \text{ tens and } \underline{\quad} \underline{4} \text{ ones}$$

$$80 = \underline{\quad} \underline{8} \text{ tens and } \underline{\quad} \underline{0} \text{ ones}$$

$$93 = \underline{\quad} \underline{9} \text{ tens and } \underline{\quad} \underline{3} \text{ ones}$$

Visualizing story problems in subtraction in which children must see how many more are needed. Children use the pictures to supply the missing numbers in the problems. They see

the solution in the picture. This lesson also reviews place value of two-place numbers.

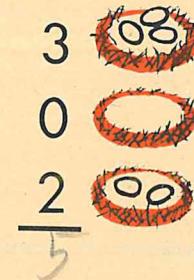
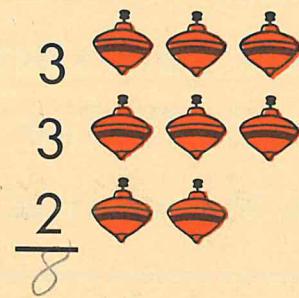
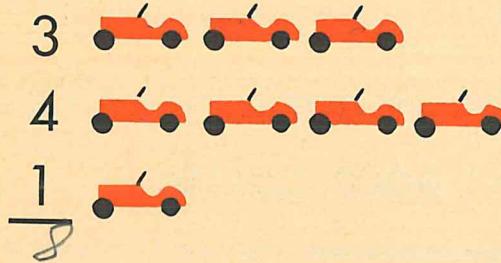


Think  $\frac{4}{5} + \frac{1}{5}$ .

4  
1 → 5  
2  
2

Then think  $\frac{5}{7} + \frac{2}{7}$ . Write 7.

A



The 0 shows not any.  
Think  $\frac{3}{5} + \frac{2}{5}$ . Write 5.

$\frac{2}{3}$	$\frac{1}{4}$	$\frac{5}{2}$	$\frac{2}{4}$	$\frac{7}{0}$	$\frac{3}{2}$	$\frac{2}{0}$	$\frac{2}{3}$	$\frac{6}{2}$	$\frac{2}{3}$	$\frac{1}{1}$	$\frac{3}{0}$
<u>1</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>8</u>	<u>0</u>	<u>6</u>	<u>3</u>	<u>8</u>	<u>7</u>	<u>4</u>	<u>8</u>
<u>6</u>	<u>8</u>	<u>8</u>	<u>7</u>	<u>8</u>	<u>0</u>	<u>8</u>	<u>8</u>	<u>8</u>	<u>7</u>	<u>6</u>	<u>8</u>

$\frac{1}{5}$	$\frac{4}{2}$	$\frac{1}{0}$	$\frac{6}{1}$	$\frac{5}{1}$	$\frac{1}{0}$	$\frac{4}{3}$	$\frac{1}{6}$	$\frac{5}{0}$	$\frac{1}{3}$	$\frac{3}{3}$	$\frac{2}{5}$
<u>2</u>	<u>1</u>	<u>5</u>	<u>1</u>	<u>8</u>	<u>7</u>	<u>1</u>	<u>8</u>	<u>2</u>	<u>6</u>	<u>7</u>	<u>8</u>
<u>8</u>	<u>7</u>	<u>6</u>	<u>8</u>	<u>8</u>	<u>7</u>	<u>8</u>	<u>8</u>	<u>7</u>	<u>6</u>	<u>7</u>	<u>8</u>

## Finding Scores



$$\begin{array}{r}
 3 \\
 1 \\
 2 \\
 \hline
 > 4 \\
 2
 \end{array}$$

Each boy throws three bags.  
Jack scored 3, 1, and 2.  
This is how to find Jack's score.

Think  $\frac{3}{4}$ . Then think  $\frac{4}{6}$ .

What is Jack's score? 6

A miss is 0. The 0 shows not any points.  
Circle the high score in each game.

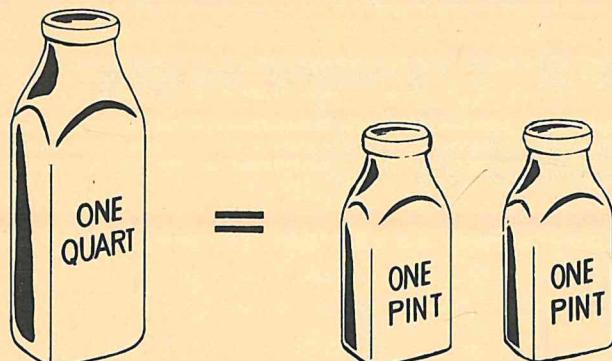
Jack 3 1 2 <hr/> 6	Tom 2 1 2 <hr/> 5	Jack 3 0 0 <hr/> 3	Tom 1 3 0 <hr/> 4	Jack 2 0 2 <hr/> 4	Tom 3 0 2 <hr/> 5	Jack 1 2 2 <hr/> 5	Tom 3 0 3 <hr/> 6
--------------------------------	-------------------------------	--------------------------------	-------------------------------	--------------------------------	-------------------------------	--------------------------------	-------------------------------

Jack 1 1 3 <hr/> 5	Tom 2 0 3 <hr/> 5	Jack 3 1 2 <hr/> 6	Tom 0 2 3 <hr/> 5	Jack 0 0 3 <hr/> 3	Tom 1 1 1 <hr/> 3	Jack 2 2 1 <hr/> 5	Tom 2 2 2 <hr/> 6
--------------------------------	-------------------------------	--------------------------------	-------------------------------	--------------------------------	-------------------------------	--------------------------------	-------------------------------



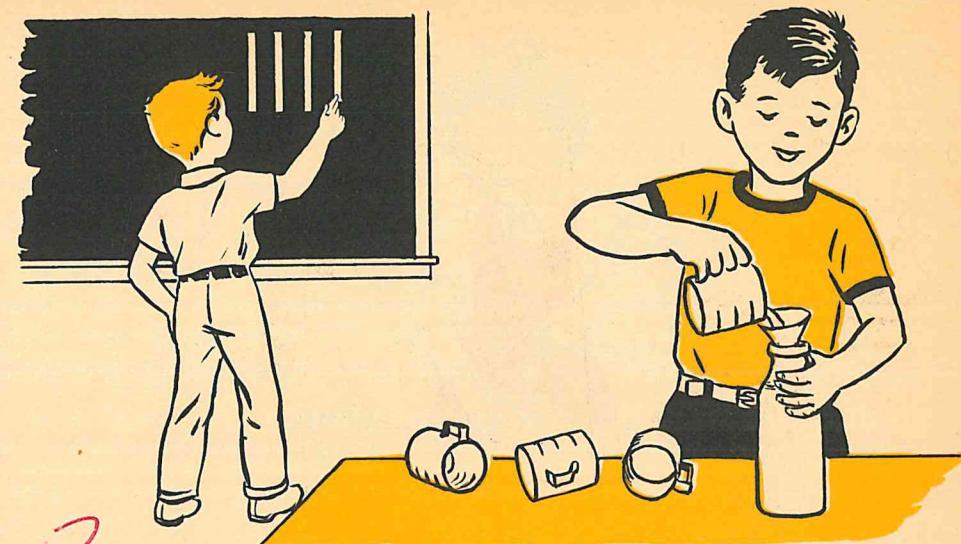
1 quart will fill 4 cups.

2 quarts will fill 8 cups.



1 quart will fill 2 pints.

2 pints will fill 1 quart.



*B* 4 cups will fill 1 quart.

~~14~~ cups will fill 2 quarts.

Circle which is more:

a pint or a quart

3 pints or a quart

2 pints or 2 quarts

4 cups or a pint



C



Sally had 1 full pint .

She had 2 empty s.

She filled the 2 s from the .

Then the was empty.

Sally showed = .

Sally had 2 full s.

She had 1 empty .

She filled the from the 2 s.

Then the 2 s were empty.

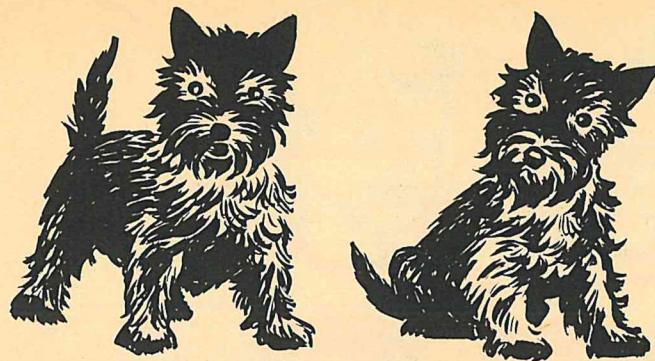
Sally showed = .

2 cups 1 quart  
2 pints 2 quarts  
8 cups 1 pint

Draw a line to the answer.

7 days 1 foot  
4 cups 1 week  
12 inches 1 quart

1 foot 2 cups  
1 pint 12 inches  
2 quarts 4 pints



6



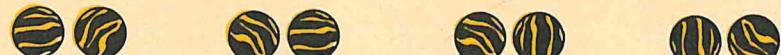
Each gets the same.  
Each gets 3 s.



Each gets the same.  
Each gets 4 s.



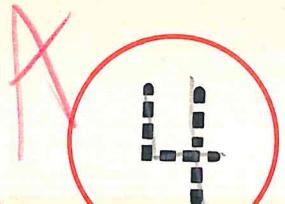
8



Each gets the same.  
Each gets 2 s.

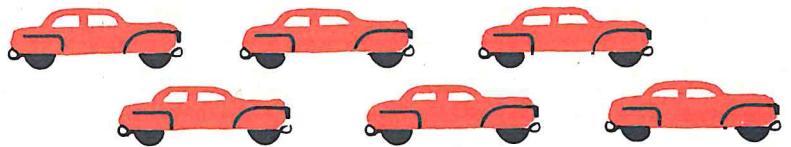


Each gets the same.  
Each gets 3 s.



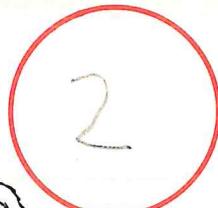
Each gets the same.

Each gets 2 s.



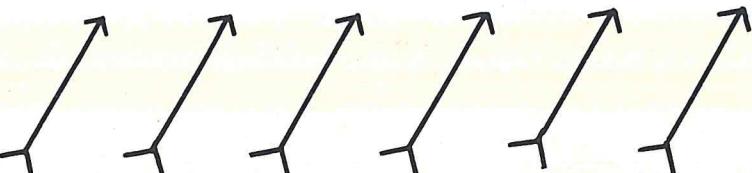
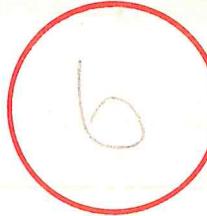
Each gets the same.

Each gets 3 s.



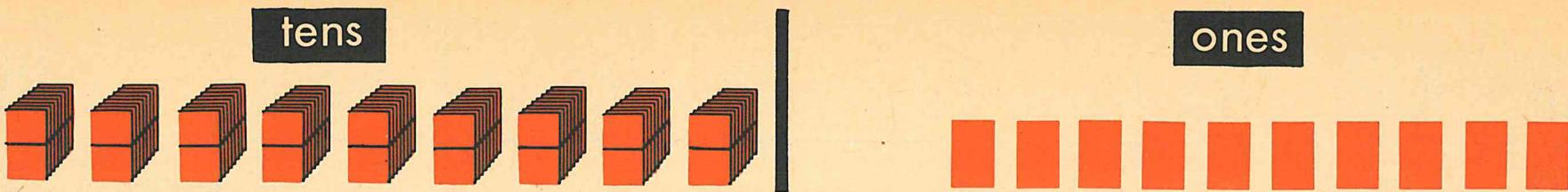
Each gets the same.

Each gets 1 .



Each gets the same.

Each gets 3 s.



~~10~~ tens

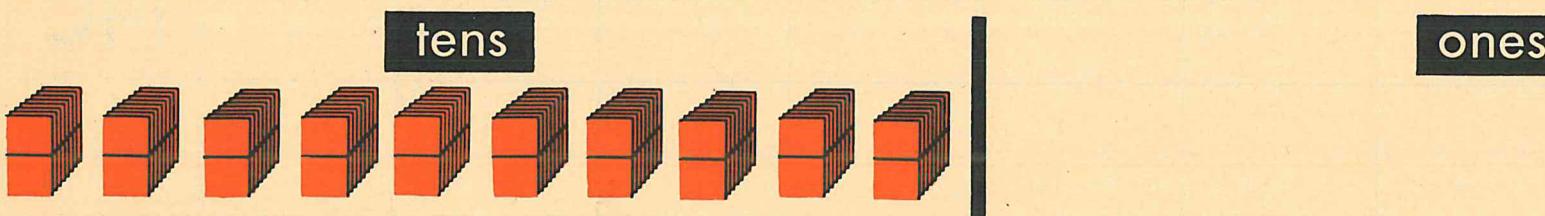
Put the 10 ones together to make another ten.

Put the new ten with the other tens.

ones

~~100~~ ones

F

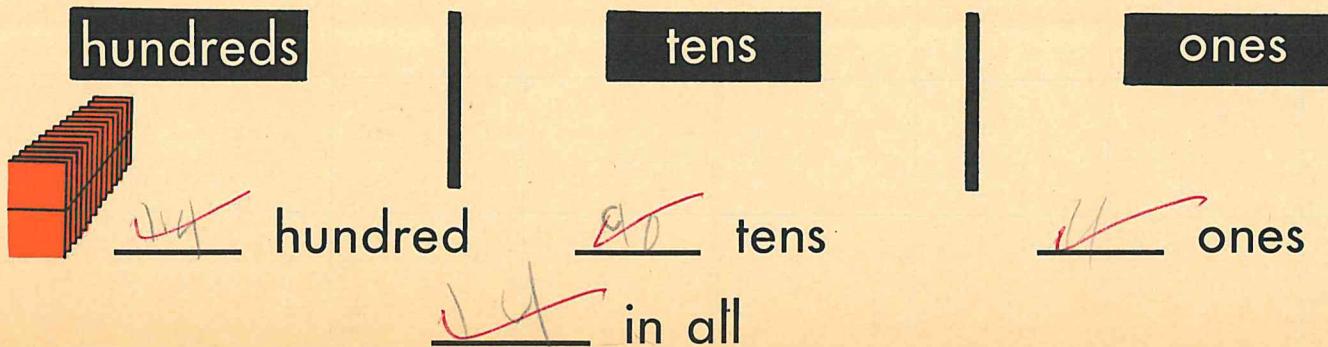


Now there are ~~10~~ tens and ~~10~~ ones.

Put the 10 tens together to make .

Call this  1 hundred.

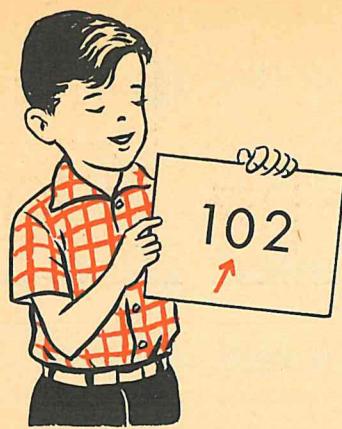
Put the hundred in hundreds' place.



101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170
171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199	200

Counting, reading, writing numbers from 101 to 200. 1 hundreds' bundle, 2 tens' bundles, and 10 single tickets the children can show each number from 101 to 130 as they

meaning of three-place numbers.



hundreds



tens

ones



1 hundred    0 tens    2 ones  
102 in all



hundreds



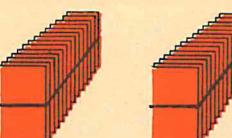
tens

ones

1 hundred    2 tens    0 ones  
120 in all



hundreds



tens

ones

2 hundreds    0 tens    0 ones  
200 in all

Which number is the most in each row?

103    100

130

100    140

104

200    120

102

120    142

124

153    103

135

110    120

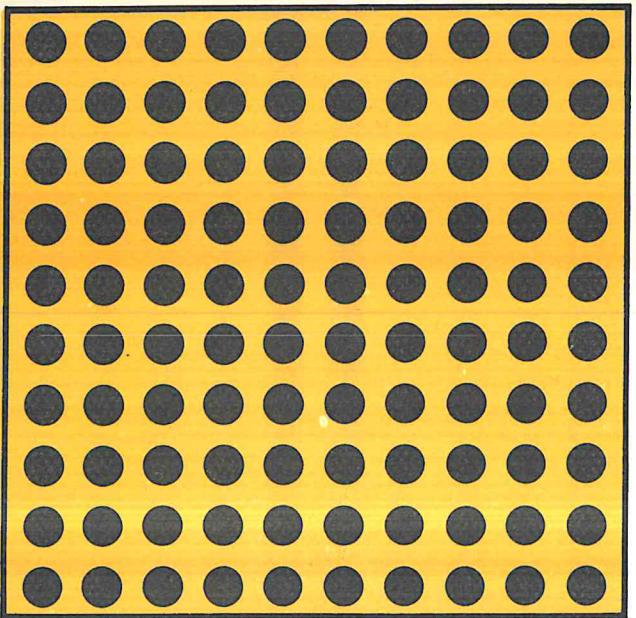
130

150    200

105

163    136

143



100 ● s

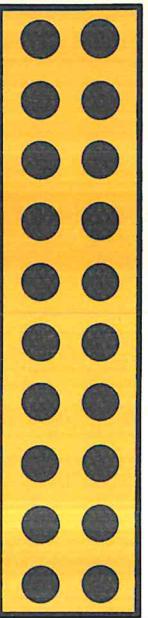
1 hundred

20 ● s

2 tens

6 ● s

6 ones



Dick counted the ● s.

First he counted 100.

Then he counted 20 more.

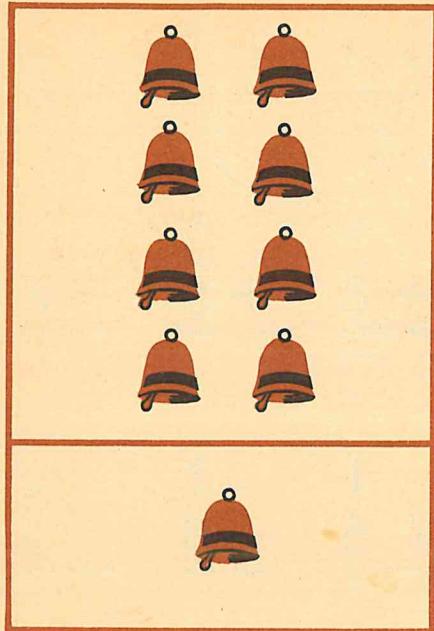
Then he counted 6 more.

In all he counted

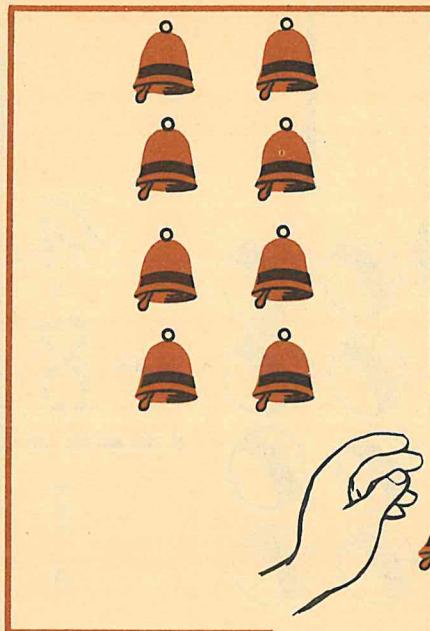
126 ● s.

126 means 1 hundred 2 tens 6 ones.140 means 1 hundred 4 tens 0 ones.107 means 1 hundred 0 tens 7 ones.165 means 1 hundred 6 tens 5 ones.129 means 1 hundred 2 tens 9 ones.200 means 2 hundreds 0 tens 0 ones.

## A Way to Group 9 bells



$$\begin{array}{r} + \\ 8 \\ \hline 9 \end{array}$$



$$\begin{array}{r} - \\ 9 \\ \hline 8 \end{array}$$

$$\begin{array}{r} + \\ 8 \\ \hline 9 \end{array}$$

$$\begin{array}{r} - \\ 8 \\ \hline 9 \end{array}$$

8 bells

9 is 8 and \_\_\_\_.

9 bells

$$\begin{array}{r} + \\ 1 \\ \hline 9 \end{array}$$

bell  
bells

$$\begin{array}{r} 8 \\ \hline \end{array}$$

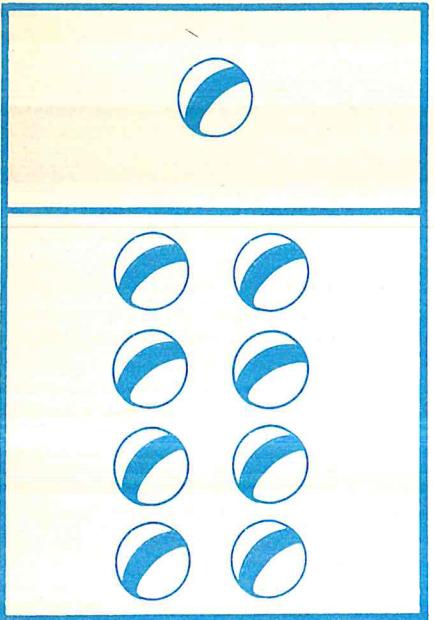
is 8 and 1.  
 $8 + 1 = 9$

$$\begin{array}{r} - \\ 8 \\ \hline 1 \end{array}$$

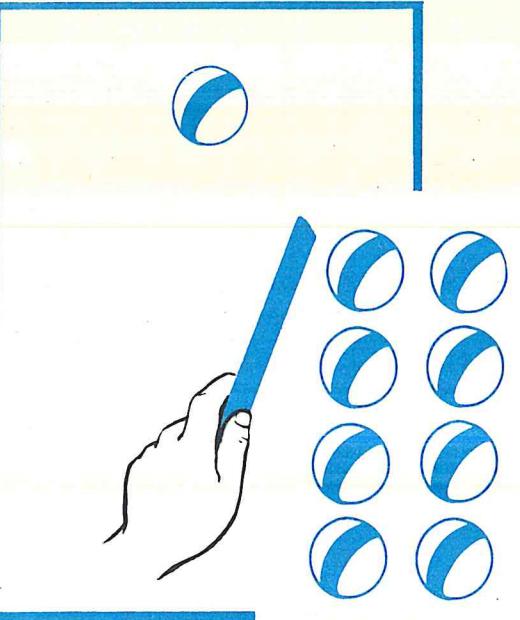
bell  
bells

$\begin{array}{r} + \\ 1 \\ \hline 9 \end{array}$	$\begin{array}{r} + \\ 2 \\ \hline 8 \end{array}$	$\begin{array}{r} + \\ 4 \\ \hline 7 \end{array}$	$\begin{array}{r} + \\ 1 \\ \hline 9 \end{array}$
$\begin{array}{r} + \\ 5 \\ \hline 7 \end{array}$	$\begin{array}{r} + \\ 1 \\ \hline 9 \end{array}$	$\begin{array}{r} + \\ 6 \\ \hline 8 \end{array}$	$\begin{array}{r} + \\ 1 \\ \hline 9 \end{array}$
$\begin{array}{r} + \\ 1 \\ \hline 9 \end{array}$	$\begin{array}{r} + \\ 3 \\ \hline 7 \end{array}$	$\begin{array}{r} + \\ 1 \\ \hline 9 \end{array}$	$\begin{array}{r} + \\ 2 \\ \hline 7 \end{array}$
$\begin{array}{r} - \\ 1 \\ \hline 8 \end{array}$	$\begin{array}{r} - \\ 2 \\ \hline 10 \end{array}$	$\begin{array}{r} - \\ 4 \\ \hline 11 \end{array}$	$\begin{array}{r} - \\ 1 \\ \hline 8 \end{array}$
$\begin{array}{r} - \\ 5 \\ \hline 11 \end{array}$	$\begin{array}{r} - \\ 1 \\ \hline 8 \end{array}$	$\begin{array}{r} - \\ 6 \\ \hline 11 \end{array}$	$\begin{array}{r} - \\ 1 \\ \hline 8 \end{array}$
$\begin{array}{r} - \\ 1 \\ \hline 8 \end{array}$	$\begin{array}{r} - \\ 3 \\ \hline 10 \end{array}$	$\begin{array}{r} - \\ 1 \\ \hline 8 \end{array}$	$\begin{array}{r} - \\ 2 \\ \hline 9 \end{array}$

## A Way to Group 9 ⚽s



$$\begin{array}{r} -8 \\ +1 \\ \hline 9 \end{array}$$



$$\begin{array}{r} 8 \\ -8 \\ \hline 0 \end{array}$$

$$\begin{array}{r} -8 \\ +1 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 9 \\ -8 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 1 \\ +8 \\ \hline 9 \end{array}$$

1 ball  
+ 8 balls  
9 balls

$$\begin{array}{r} 9 \\ -8 \\ \hline 1 \end{array}$$

9 is 1 and 8.  
 $1 + 8 = 9$

$$\begin{array}{r} 9 \\ -8 \\ \hline 1 \end{array}$$

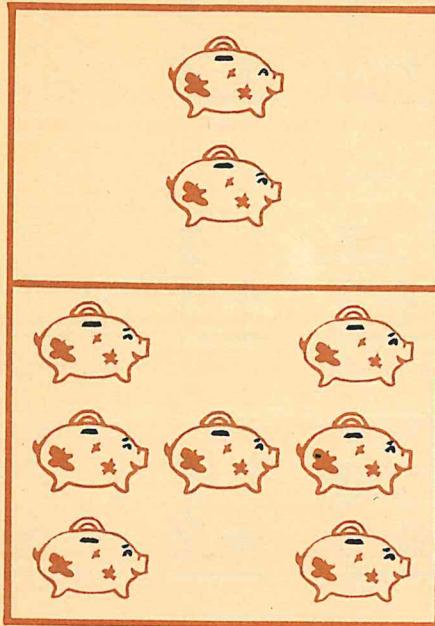
9 balls  
- 8 balls  
1 ball

$\begin{array}{r} -8 \\ +1 \\ \hline 9 \end{array}$	$\begin{array}{r} -8 \\ +1 \\ \hline 9 \end{array}$	$\begin{array}{r} 2 \\ 4 \\ +1 \\ \hline 5 \end{array}$	$\begin{array}{r} 6 \\ 1 \\ +1 \\ \hline 7 \end{array}$
$\begin{array}{r} 5 \\ -8 \\ \hline 9 \end{array}$	$\begin{array}{r} 4 \\ +2 \\ \hline 6 \end{array}$	$\begin{array}{r} 1 \\ -8 \\ \hline 9 \end{array}$	$\begin{array}{r} 3 \\ +5 \\ \hline 8 \end{array}$
$\begin{array}{r} 1 \\ +6 \\ \hline 7 \end{array}$	$\begin{array}{r} 1 \\ +6 \\ \hline 7 \end{array}$	$\begin{array}{r} 8 \\ -8 \\ \hline 0 \end{array}$	$\begin{array}{r} 7 \\ 1 \\ -8 \\ \hline 8 \end{array}$
$\begin{array}{r} 8 \\ -8 \\ \hline 0 \end{array}$	$\begin{array}{r} 8 \\ -8 \\ \hline 0 \end{array}$	$\begin{array}{r} 8 \\ -8 \\ \hline 0 \end{array}$	$\begin{array}{r} 8 \\ -8 \\ \hline 0 \end{array}$
$\begin{array}{r} 0 \\ -8 \\ \hline 8 \end{array}$	$\begin{array}{r} 0 \\ -8 \\ \hline 8 \end{array}$	$\begin{array}{r} 0 \\ -8 \\ \hline 8 \end{array}$	$\begin{array}{r} 6 \\ -6 \\ \hline 0 \end{array}$
$\begin{array}{r} 8 \\ -8 \\ \hline 0 \end{array}$	$\begin{array}{r} 8 \\ -8 \\ \hline 0 \end{array}$	$\begin{array}{r} 8 \\ -8 \\ \hline 0 \end{array}$	$\begin{array}{r} 6 \\ -6 \\ \hline 0 \end{array}$
$\begin{array}{r} 8 \\ -8 \\ \hline 0 \end{array}$	$\begin{array}{r} 8 \\ -8 \\ \hline 0 \end{array}$	$\begin{array}{r} 8 \\ -8 \\ \hline 0 \end{array}$	$\begin{array}{r} 10 \\ -10 \\ \hline 0 \end{array}$

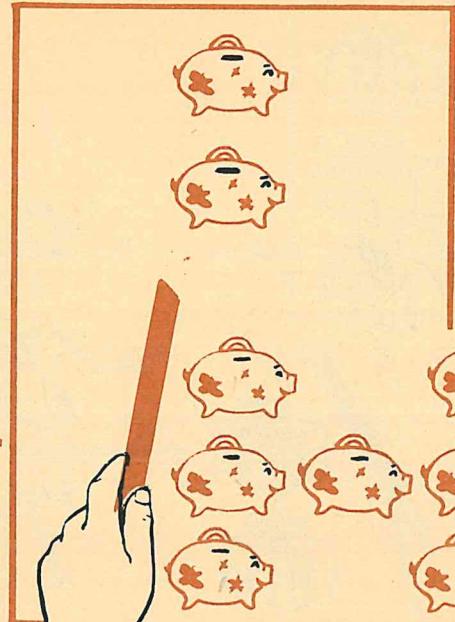
Visualizing related facts  $1 + 8 = 9$  and  $9 - 8 = 1$ . Children talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk picture of the

story; then fill in the missing numbers. Follow a similar plan for  $9 - 8 = 1$ .

## A Way to Group 9 ⚡'s



$$\begin{array}{r} + \\ 7 \\ \hline 9 \end{array}$$



$$\begin{array}{r} - \\ 7 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 2 \\ + 7 \\ \hline 9 \end{array} \quad \begin{array}{r} 5 \\ + 1 \\ \hline 6 \end{array} \quad \begin{array}{r} 6 \\ + 2 \\ \hline 8 \end{array} \quad \begin{array}{r} 2 \\ + 7 \\ \hline 9 \end{array}$$
  

$$\begin{array}{r} 1 \\ + 5 \\ \hline 6 \end{array} \quad \begin{array}{r} 2 \\ + 7 \\ \hline 9 \end{array} \quad \begin{array}{r} 5 \\ + 3 \\ \hline 8 \end{array} \quad \begin{array}{r} 2 \\ + 7 \\ \hline 9 \end{array}$$
  

$$\begin{array}{r} 2 \\ + 7 \\ \hline 9 \end{array} \quad \begin{array}{r} 2 \\ + 6 \\ \hline 8 \end{array} \quad \begin{array}{r} 2 \\ + 7 \\ \hline 9 \end{array} \quad \begin{array}{r} 3 \\ + 5 \\ \hline 8 \end{array}$$

$$\begin{array}{r} + 7 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 9 \\ - 7 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 9 \\ - 7 \\ \hline 2 \end{array} \quad \begin{array}{r} 6 \\ - 1 \\ \hline 7 \end{array} \quad \begin{array}{r} 8 \\ - 2 \\ \hline 10 \end{array} \quad \begin{array}{r} 9 \\ - 7 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 6 \\ - 5 \\ \hline 11 \end{array} \quad \begin{array}{r} 9 \\ - 7 \\ \hline 2 \end{array} \quad \begin{array}{r} 8 \\ - 3 \\ \hline 11 \end{array} \quad \begin{array}{r} 9 \\ - 7 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 9 \\ - 7 \\ \hline 2 \end{array} \quad \begin{array}{r} 8 \\ - 6 \\ \hline 14 \end{array} \quad \begin{array}{r} 9 \\ - 7 \\ \hline 2 \end{array} \quad \begin{array}{r} 8 \\ - 5 \\ \hline 13 \end{array}$$

story; then fill in the missing numbers. Follow a similar plan for  $9 - 7 = 2$ .

talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk picture of the

2 banks

9 is 2 and 11.

9 banks

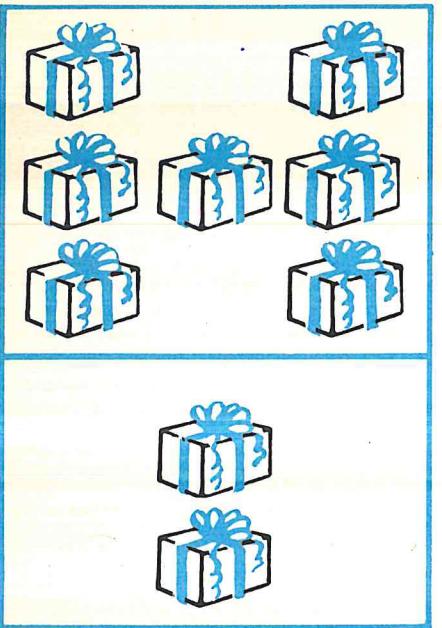
$$\begin{array}{r} + 7 \\ \hline 9 \end{array} \text{ banks}$$

$$\begin{array}{r} 9 \\ - 2 \\ \hline 7 \end{array} \text{ and } 7.$$

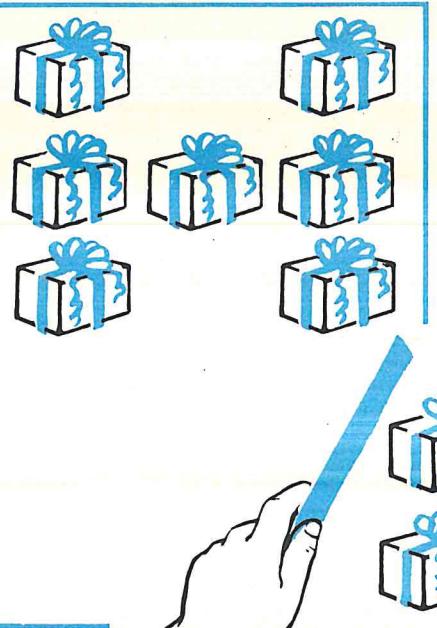
$2 + 7 = 9$

$$\begin{array}{r} - 7 \\ \hline 2 \end{array} \text{ banks}$$

## A Way to Group 9 s



$$\begin{array}{r} 7 \\ + 2 \\ \hline 9 \end{array}$$



$$\begin{array}{r} 9 \\ - 2 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 7 \\ + 2 \\ \hline 9 \end{array} \quad \begin{array}{r} 7 \\ + 2 \\ \hline 9 \end{array} \quad \begin{array}{r} 2 \\ + 4 \\ \hline 6 \end{array} \quad \begin{array}{r} 7 \\ + 2 \\ \hline 9 \end{array} \quad \begin{array}{r} 1 \\ 8 \\ + 1 \\ \hline 9 \end{array} \quad \begin{array}{r} 9 \\ - 2 \\ \hline 7 \end{array} \quad \begin{array}{r} 6 \\ - 2 \\ \hline 8 \end{array} \quad \begin{array}{r} 9 \\ - 2 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 7 \\ + 2 \\ \hline 9 \end{array} \quad \begin{array}{r} 7 \\ + 2 \\ \hline 9 \end{array} \quad \begin{array}{r} 7 \\ + 2 \\ \hline 9 \end{array} \quad \begin{array}{r} 7 \\ + 2 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 9 \\ - 2 \\ \hline 7 \end{array} \quad \begin{array}{r} 9 \\ - 2 \\ \hline 7 \end{array} \quad \begin{array}{r} 9 \\ - 2 \\ \hline 7 \end{array} \quad \begin{array}{r} 9 \\ - 2 \\ \hline 7 \end{array}$$

7 gifts

$$\begin{array}{r} + 2 \\ \hline 9 \end{array} \text{ gifts}$$

9 is 7 and 2.

$$\begin{array}{r} 9 \\ - 7 \\ \hline 2 \end{array} \quad 7 + 2 = 9$$

9 gifts

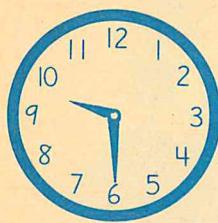
$$\begin{array}{r} - 2 \\ \hline 7 \end{array} \quad \begin{array}{r} 9 \\ - 2 \\ \hline 7 \end{array} \quad \begin{array}{r} 8 \\ - 5 \\ \hline 3 \end{array}$$

Visualizing related facts  $7 + 2 = 9$  and  $9 - 2 = 7$ . Children talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk picture of the

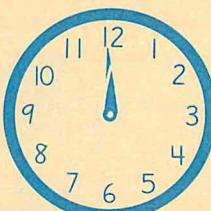
story; then fill in the missing numbers. Follow a similar plan for  $9 - 2 = 7$ .

Write half past 9 like this: 9:30.

9:30 means 30 minutes past 9 o'clock.



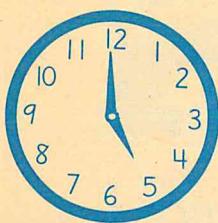
9:30 o'clock



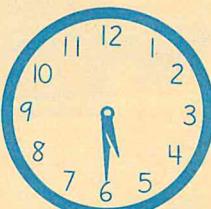
12 o'clock



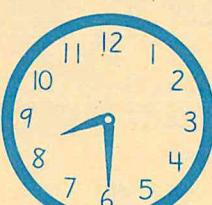
1 o'clock



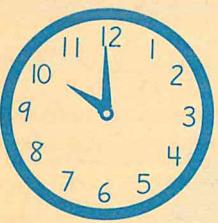
5 o'clock



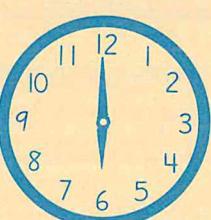
5:30 o'clock



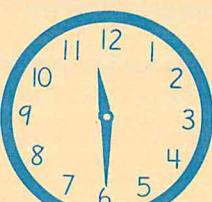
8 o'clock



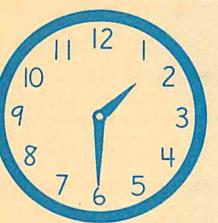
10 o'clock



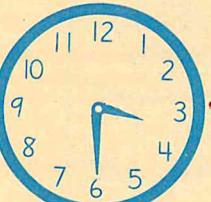
6 o'clock



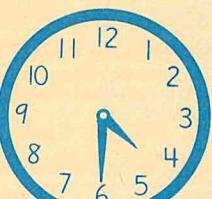
11 o'clock



1:30 o'clock



3:30 o'clock



4:30 o'clock



6:30 o'clock



7:30 o'clock



11 o'clock



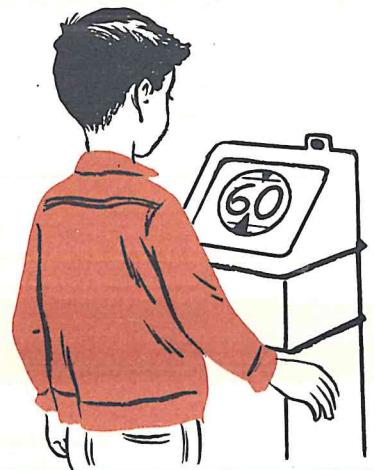
How many pounds? 4



C How many pounds? 3



How many pounds? ✓



How many pounds  
does the boy weigh? 60



How many pounds  
do they both weigh? 70



How many pounds  
does the dog weigh? 10

Meaning of pounds and half pounds. Children study and talk about each type of scales shown. If possible, provide a small scales so that the children may weigh actual objects. This

would be an excellent time to weigh the children on the school scales.

pennies shown in the hand; and subtract the amount shown from the cost. They also think (as in problem 1):  $3¢ + \underline{\hspace{1cm}}¢ = 5¢$ .



The apple costs 5 ¢.

I have only 3 ¢.

I still need 2 ¢.

$$3¢ + \underline{2}¢ = 5¢$$

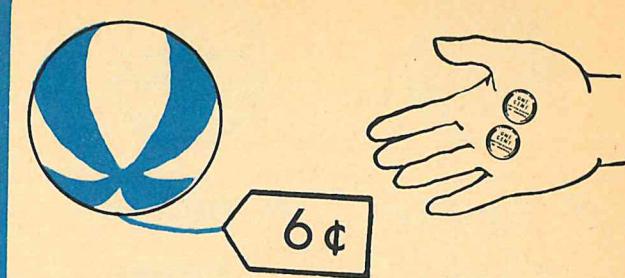


The bell costs 8 ¢.

I have only 4 ¢.

I still need 4 ¢.

$$4¢ + \underline{4}¢ = 8¢$$

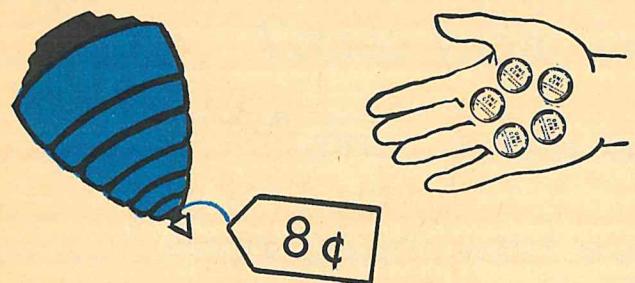


The ball costs 6 ¢.

I have only 2 ¢.

I still need 4 ¢.

$$2¢ + \underline{4}¢ = 6¢$$

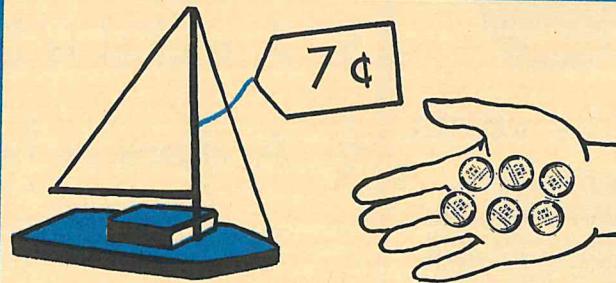


The top costs 8 ¢.

I have only 5 ¢.

I still need 3 ¢.

$$5¢ + \underline{3}¢ = 8¢$$

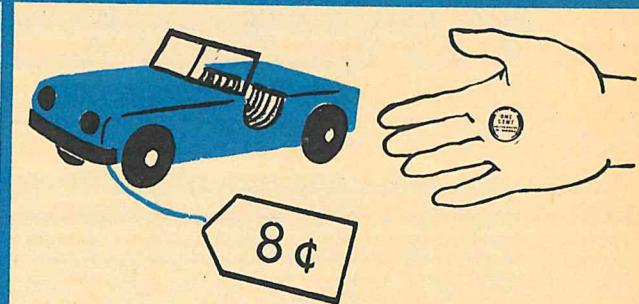


The boat costs 7 ¢.

I have only 6 ¢.

I still need 1 ¢.

$$6¢ + \underline{1}¢ = 7¢$$



The car costs 8 ¢.

I have only 1 ¢.

I still need 7 ¢.

$$1¢ + \underline{7}¢ = 8¢$$

**Subtraction concept:** How much more money is needed? In each picture the children see how much the article costs; count the



A penny  
1 cent  
1¢



A nickel  
5 cents  
5¢



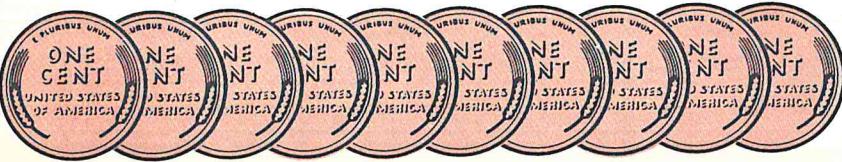
A dime  
10 cents  
10¢



A penny = one cent.



A nickel = five pennies or five cents.



A dime = ten pennies or ten cents.



A dime = two nickels.

D  
1. What one piece of money  
is the same as five cents?

2. What one piece of money  
is the same as ten cents?

3. What one piece of money  
is the same as two nickels?

4. A penny is how many cents?

5. A nickel is how many cents?

6. A dime is how many cents?

7. Two nickels are how many cents?

8. Which is more:

a penny or a nickel?

a dime or five pennies?

Reviewing coins presented in first grade and coin equivalents. If possible, provide real coins: 10 pennies, 2 nickels, 1 dime. As children read the questions, a child will answer by showing

pennies

one

two

ten

dime

cents

Nickel

five

the actual coins. Later at their seats the children will write the answers.



A-

1 dollar

=

D

half dollars or

H

quarters



10

dimes

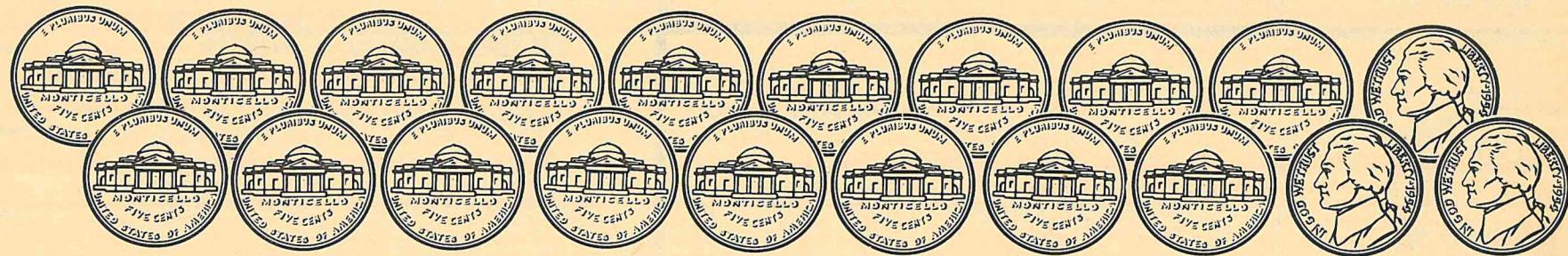
=

100

cents or

1

dollar



20

nickels

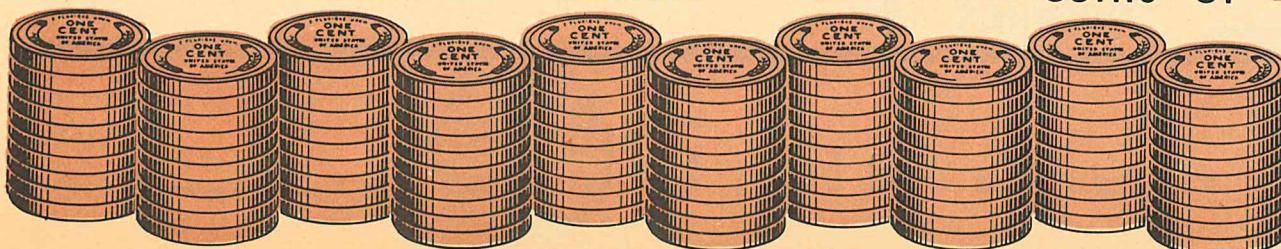
=

100

cents or

1

dollar



100

pennies or

1

dollar



1 nickel

5

D pennies



1 dime

10nickels  
pennies5

1 quarter

5nickels  
pennies25

1 half dollar

2

quarters

5

dimes

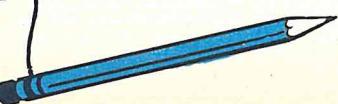
10

nickels

50

pennies

5 cents



How many /'s can I buy for



1 dollar

is as much money as:

how many half dollars?

2

how many quarters?

4

how many dimes?

10

how many nickels?

20

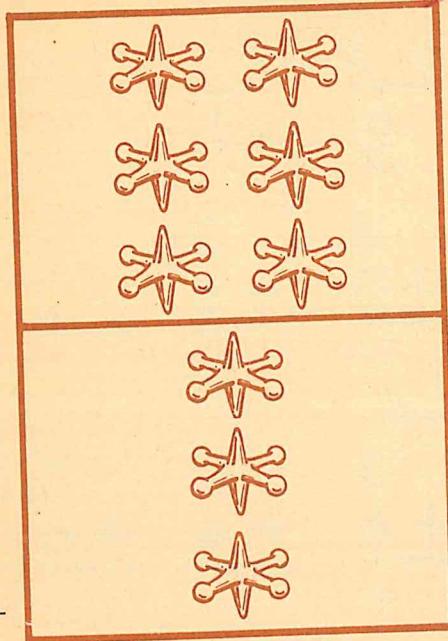
how many pennies?

100

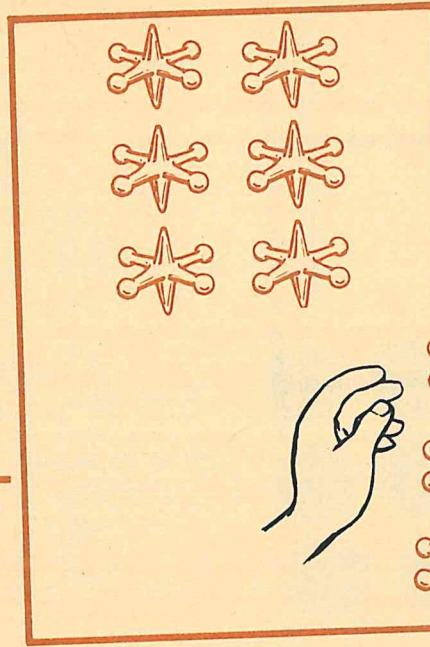
Money equivalents. If possible, have 25 copper pennies, 10 nickels, 5 dimes, 2 quarters, 2 half dollars, and a dollar bill

to teach the class lesson suggested in the Teachers Edition. At their seats the children will supply the missing numbers.

B-

A Way to Group 9 s

$$\begin{array}{r} + 3 \\ \hline 9 \end{array}$$



$$\begin{array}{r} - 3 \\ \hline 6 \end{array}$$

<b>+ 3</b>	<b>6</b>	<b>9</b>
<del>3</del>	<del>3</del>	<del>9</del>

6 s

$$\begin{array}{r} + 3 \\ \hline 9 \end{array}$$

9 is 6 and 3.

$$\begin{array}{r} 9 \\ - 3 \\ \hline 6 \end{array}$$

$$6 + 3 = 9$$

<b>- 3</b>	<b>9</b>	<b>9</b>	<b>9</b>
<del>3</del>	<del>3</del>	<del>3</del>	<del>3</del>

9 is 6 and 3.9 s

$$\begin{array}{r} - 3 \\ \hline 6 \end{array}$$

$\begin{array}{r} + 6 \\ \hline 9 \end{array}$	$\begin{array}{r} + 7 \\ \hline 9 \end{array}$	$\begin{array}{r} + 2 \\ \hline 6 \end{array}$	$\begin{array}{r} + 6 \\ \hline 9 \end{array}$
<del>4</del>	<del>9</del>	<del>6</del>	<del>9</del>
$\begin{array}{r} + 3 \\ \hline 7 \end{array}$	$\begin{array}{r} + 3 \\ \hline 10 \end{array}$	$\begin{array}{r} + 7 \\ \hline 8 \end{array}$	$\begin{array}{r} + 3 \\ \hline 9 \end{array}$
$\begin{array}{r} + 3 \\ \hline 9 \end{array}$	$\begin{array}{r} + 3 \\ \hline 6 \end{array}$	$\begin{array}{r} + 3 \\ \hline 9 \end{array}$	$\begin{array}{r} + 3 \\ \hline 7 \end{array}$
$\begin{array}{r} - 3 \\ \hline 6 \end{array}$	$\begin{array}{r} - 1 \\ \hline 8 \end{array}$	$\begin{array}{r} - 4 \\ \hline 3 \end{array}$	$\begin{array}{r} - 3 \\ \hline 6 \end{array}$
$\begin{array}{r} - 3 \\ \hline 6 \end{array}$	$\begin{array}{r} - 3 \\ \hline 9 \end{array}$	$\begin{array}{r} - 7 \\ \hline 8 \end{array}$	$\begin{array}{r} - 3 \\ \hline 9 \end{array}$
$\begin{array}{r} - 3 \\ \hline 6 \end{array}$	$\begin{array}{r} - 3 \\ \hline 6 \end{array}$	$\begin{array}{r} - 7 \\ \hline 1 \end{array}$	$\begin{array}{r} - 3 \\ \hline 6 \end{array}$
$\begin{array}{r} - 3 \\ \hline 6 \end{array}$	$\begin{array}{r} - 2 \\ \hline 5 \end{array}$	$\begin{array}{r} - 3 \\ \hline 6 \end{array}$	$\begin{array}{r} - 4 \\ \hline 6 \end{array}$

for  $9 - 3 = 6$ .

Visualizing related facts  $6 + 3 = 9$  and  $9 - 3 = 6$ .  
 talk about the number story in the grouped picture at the left;  
 dramatize the story with objects; make a disk picture of the

# A Way to Group 9 s

10

10

9

9

$$\begin{array}{r} 3 \\ + 6 \\ \hline 9 \end{array}$$

An illustration of a hand reaching towards a row of five blue circles arranged in a vertical column. Each circle contains a white wavy line, suggesting water or waves. The hand is positioned as if it is about to touch or pick up one of the circles.

$$\begin{array}{r} 9 \\ - 6 \\ \hline 3 \end{array}$$

$  \begin{array}{r}  3 \\  + 6 \\  \hline  9  \end{array}  $	$  \begin{array}{r}  3 \\  + 6 \\  \hline  9  \end{array}  $	$  \begin{array}{r}  3 \\  + 6 \\  \hline  9  \end{array}  $
--	--	--

$\begin{array}{r} 9 \\ - 6 \\ \hline 3 \end{array}$	$\begin{array}{r} 9 \\ - 6 \\ \hline 3 \end{array}$	$\begin{array}{r} 9 \\ + 6 \\ \hline 3 \end{array}$	$\begin{array}{r} 9 \\ - 6 \\ \hline 3 \end{array}$
---	---	---	---

$$\begin{array}{r}
 3 \\
 + 6 \\
 \hline
 9
 \end{array}$$

9 is 3 and 6.

9 is 3 and 6.

$$3 + 6 = \underline{\underline{9}}$$

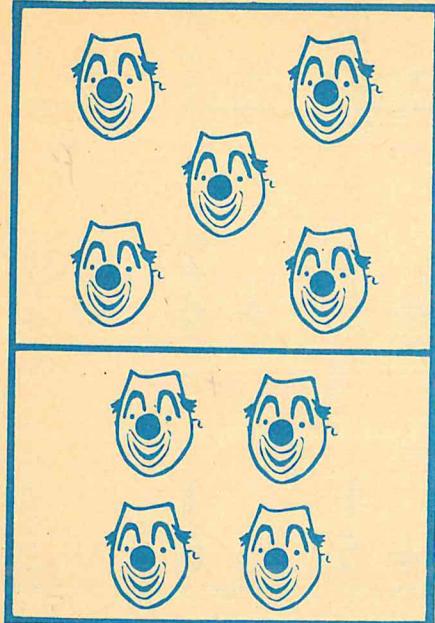
9       s  
— 6       s  
3       s

$\begin{array}{r} 3 \\ + 6 \\ \hline 9 \end{array}$	$\begin{array}{r} 2 \\ + 3 \\ \hline 5 \end{array}$	$\begin{array}{r} 7 \\ + 1 \\ \hline 9 \end{array}$	$\begin{array}{r} 3 \\ + 6 \\ \hline 9 \end{array}$
$\begin{array}{r} 3 \\ + 6 \\ \hline 9 \end{array}$	$\begin{array}{r} 4 \\ + 3 \\ \hline 7 \end{array}$	$\begin{array}{r} 3 \\ + 6 \\ \hline 9 \end{array}$	$\begin{array}{r} 3 \\ + 2 \\ \hline 5 \end{array}$
$\begin{array}{r} 1 \\ + 7 \\ \hline 9 \end{array}$	$\begin{array}{r} 3 \\ + 6 \\ \hline 9 \end{array}$	$\begin{array}{r} 3 \\ + 4 \\ \hline 6 \end{array}$	$\begin{array}{r} 3 \\ + 6 \\ \hline 9 \end{array}$
$\begin{array}{r} 9 \\ - 6 \\ \hline 3 \end{array}$	$\begin{array}{r} 5 \\ - 3 \\ \hline 2 \end{array}$	$\begin{array}{r} 9 \\ - 6 \\ \hline 3 \end{array}$	$\begin{array}{r} 8 \\ - 1 \\ \hline 8 \end{array}$
$\begin{array}{r} 7 \\ - 3 \\ \hline 6 \end{array}$	$\begin{array}{r} 9 \\ - 6 \\ \hline 3 \end{array}$	$\begin{array}{r} 5 \\ - 2 \\ \hline 3 \end{array}$	$\begin{array}{r} 9 \\ - 6 \\ \hline 3 \end{array}$
$\begin{array}{r} 9 \\ - 6 \\ \hline 3 \end{array}$	$\begin{array}{r} 8 \\ - 7 \\ \hline 1 \end{array}$	$\begin{array}{r} 7 \\ - 4 \\ \hline 3 \end{array}$	$\begin{array}{r} 9 \\ - 6 \\ \hline 3 \end{array}$

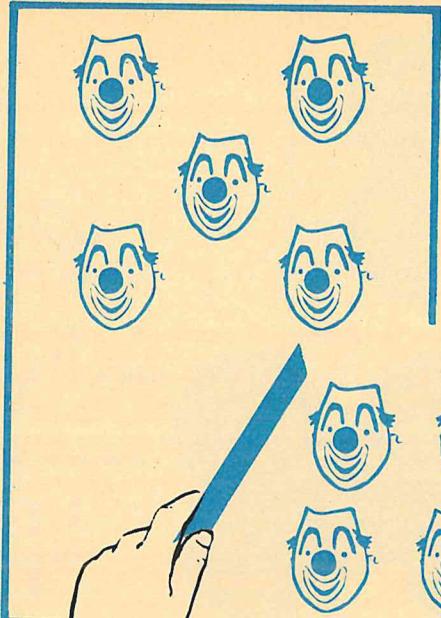
talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk picture of the

story; then fill in the missing numbers. Follow a similar plan for  $9 - 6 = 3$ .

## A Way to Group 9 s



$$\begin{array}{r} + 5 \\ \hline 9 \end{array}$$



$$\begin{array}{r} - 4 \\ \hline 5 \end{array}$$

$$\begin{array}{r} + 4 \\ \hline 9 \end{array}$$



$$\begin{array}{r} + 4 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 5 \\ + 4 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 9 \\ - 4 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 8 \\ - 3 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 9 \\ - 4 \\ \hline 5 \end{array}$$

5 s

9 is 5 and 4.

+ 4 s

9 is 5 and 4.

9 s

5 + 4 = 9

9 s

- 4 s

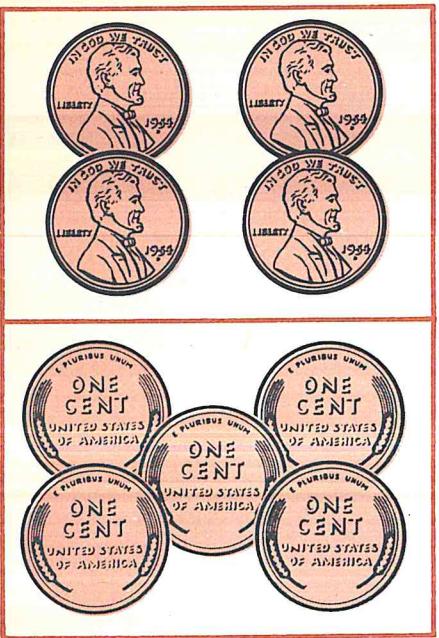
5 s

for  $9 - 4 = 5$ .

talk about the number story in the grouped picture at the left;  
dramatize the story with objects; make a drawing picture of the

C

## A Way to Group 9 ⚡'s



$$\begin{array}{r} 4 \\ + 5 \\ \hline 9 \end{array}$$



$$\begin{array}{r} 9 \\ - 5 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 4 \\ + 5 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 9 \\ - 5 \\ \hline 4 \end{array}$$

4 pennies

9 is 4 and 5.

+ 5 pennies

9 is 4 and 5.9 pennies4 + 5 = 9

9 pennies

- 5 pennies

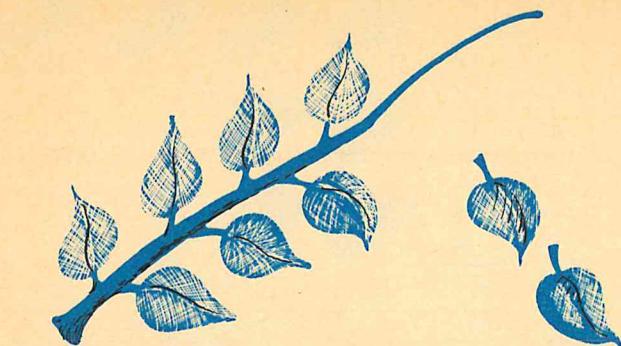
4 pennies

$\begin{array}{r} 5 \\ + 1 \\ \hline 6 \end{array}$	$\begin{array}{r} 4 \\ + 5 \\ \hline 9 \end{array}$	$\begin{array}{r} 2 \\ + 6 \\ \hline 8 \end{array}$	$\begin{array}{r} 1 \\ + 8 \\ \hline 9 \end{array}$	$\begin{array}{r} 6 \\ - 1 \\ \hline 5 \end{array}$
$\begin{array}{r} 4 \\ + 5 \\ \hline 9 \end{array}$	$\begin{array}{r} 8 \\ + 1 \\ \hline 9 \end{array}$	$\begin{array}{r} 4 \\ + 5 \\ \hline 9 \end{array}$	$\begin{array}{r} 1 \\ + 5 \\ \hline 6 \end{array}$	$\begin{array}{r} 8 \\ - 5 \\ \hline 3 \end{array}$
$\begin{array}{r} 9 \\ - 5 \\ \hline 4 \end{array}$	$\begin{array}{r} 9 \\ - 1 \\ \hline 8 \end{array}$	$\begin{array}{r} 9 \\ - 5 \\ \hline 4 \end{array}$	$\begin{array}{r} 8 \\ - 6 \\ \hline 2 \end{array}$	$\begin{array}{r} 9 \\ - 5 \\ \hline 4 \end{array}$
$\begin{array}{r} 9 \\ - 5 \\ \hline 4 \end{array}$	$\begin{array}{r} 9 \\ - 1 \\ \hline 8 \end{array}$	$\begin{array}{r} 9 \\ - 5 \\ \hline 4 \end{array}$	$\begin{array}{r} 9 \\ - 5 \\ \hline 4 \end{array}$	$\begin{array}{r} 9 \\ - 5 \\ \hline 4 \end{array}$

Visualizing related facts  $4 + 5 = 9$  and  $9 - 5 = 4$ . Children talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk picture of the

story; then fill in the missing numbers. Follow a similar plan for  $9 - 5 = 4$ .

work the problems, filling in the missing numbers. Finally, they answer the number questions across the bottom of the page.

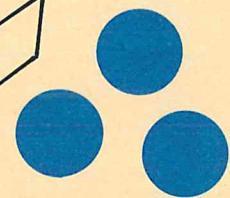
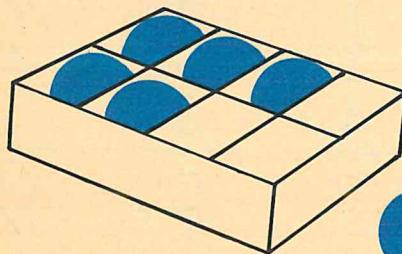


9 s were on a .

Down go z  s.

2 s are left.

$$\begin{array}{r}
 9 \text{ } \checkmark \text{ } s \\
 - \underline{2} \text{ } \checkmark \text{ } s \\
 \hline
 7 \text{ } \checkmark \text{ } s
 \end{array}$$



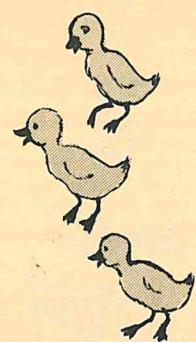
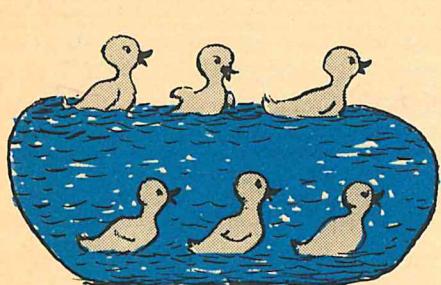
8 balls were in a box.

Bob took out 3 balls.

5 balls were left in the box.

$$8 \text{ balls} - \underline{\underline{3}} \text{ balls}$$

~~3~~ balls



b s are on the .

3  s come to the  .

q  s in all.

$$\begin{array}{r} \textcolor{red}{6} \\ + \textcolor{red}{3} \\ \hline \textcolor{red}{9} \end{array}$$


$$\begin{array}{r} 4 \\ + 5 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 6 \\ + 2 \\ \hline \end{array} \quad \begin{array}{r} 9 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ - 4 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 3 \\ + 6 \\ \hline 13 \end{array}$$

$$\begin{array}{r} 9 \\ - 8 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ + 3 \\ \hline \end{array}$$

9  
— 6

8  
—  
5  

---



$$\begin{array}{r} & 2 \\ + & 7 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ - 5 \\ \hline \end{array}$$

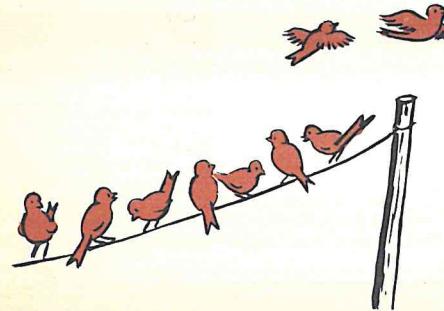
$$\begin{array}{r}
 * * * * *
 \\ 5 \\
 * \\
 1 \\
 3 \\
 \hline
 9
 \end{array}
 \quad
 \begin{array}{r}
 + 3 \\
 \hline
 9
 \end{array}$$

C

$$\begin{array}{r}
 3 \quad 3 \quad 3 \\
 \hline
 2 \quad 2 \quad 2 \\
 4 \quad 4 \quad 4 \\
 \hline
 9
 \end{array}$$

$$\begin{array}{r}
 4 \quad 4 \quad 4 \\
 \hline
 2 \quad 2 \quad 2 \\
 8
 \end{array}$$

$$\begin{array}{r}
 2 \quad 1 \quad 6 \\
 \hline
 2 \quad 0 \quad 5 \\
 9 \\
 \hline
 1 \quad 1 \quad 7 \\
 9
 \end{array}
 \quad
 \begin{array}{r}
 1 \quad 6 \quad 2 \\
 \hline
 3 \quad 0 \quad 6 \\
 9
 \end{array}
 \quad
 \begin{array}{r}
 1 \quad 4 \quad 1 \\
 \hline
 1 \quad 3 \quad 5 \\
 9
 \end{array}
 \quad
 \begin{array}{r}
 6 \quad 1 \quad 2 \\
 \hline
 1 \quad 2 \quad 3 \\
 6
 \end{array}
 \quad
 \begin{array}{r}
 1 \quad 0 \quad 7 \\
 \hline
 2 \quad 1 \quad 4 \\
 7
 \end{array}
 \quad
 \begin{array}{r}
 1 \quad 4 \quad 4 \\
 \hline
 3 \quad 4 \quad 2 \\
 9
 \end{array}
 \quad
 \begin{array}{r}
 2 \quad 0 \quad 7 \\
 \hline
 7 \quad 0 \quad 2 \\
 9
 \end{array}
 \quad
 \begin{array}{r}
 4 \quad 1 \quad 3 \\
 \hline
 4 \quad 4 \quad 1 \\
 8
 \end{array}
 \quad
 \begin{array}{r}
 1 \quad 2 \quad 4 \\
 \hline
 1 \quad 3 \quad 3 \\
 7
 \end{array}$$



There were 9 birds.  
See 2 birds go.  
1 bird is left.



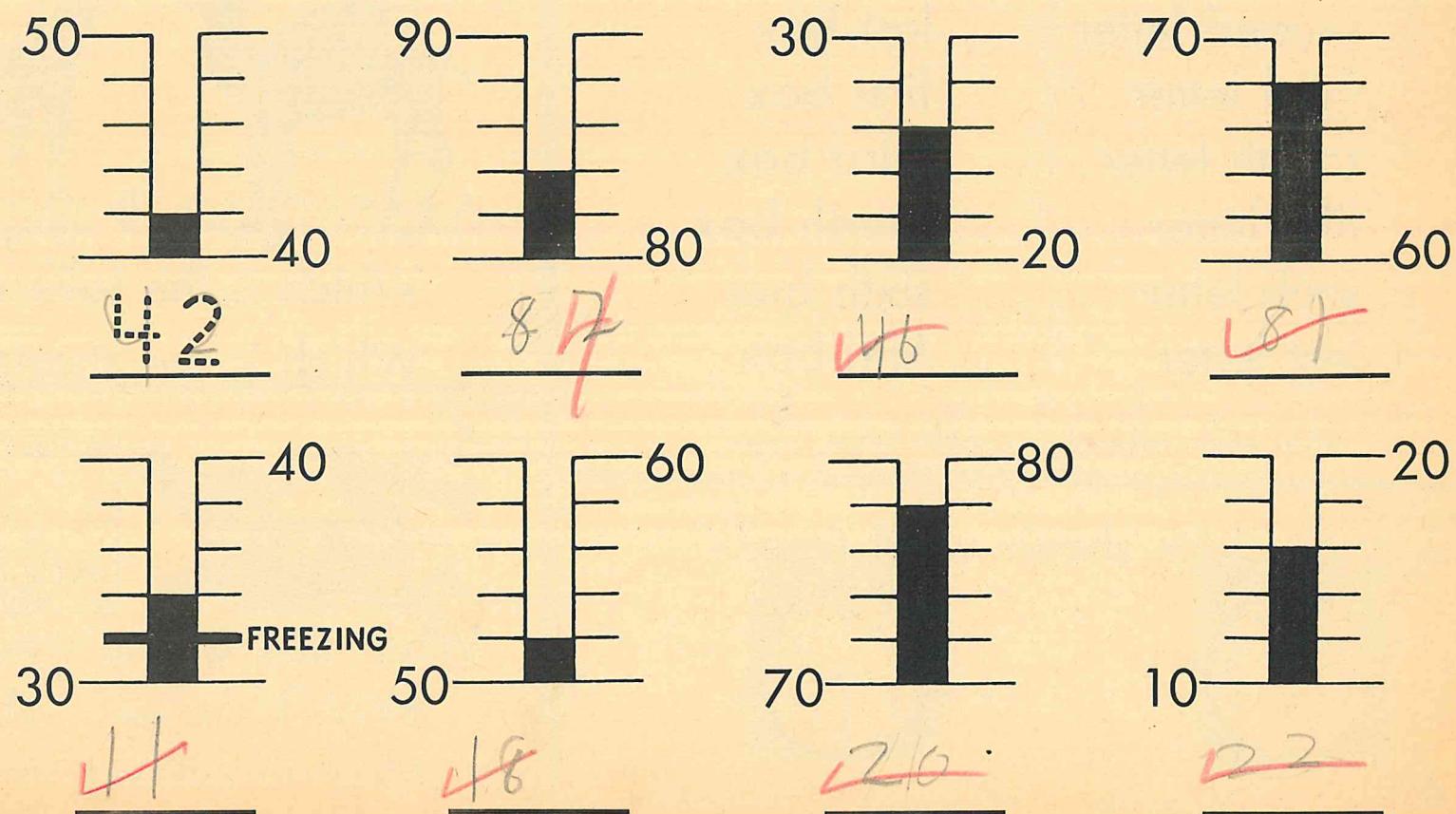
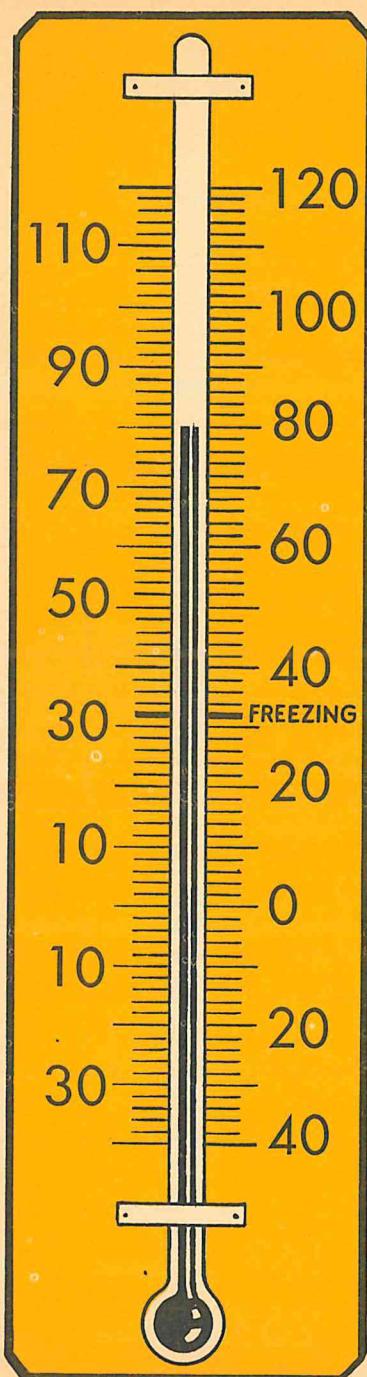
7 horses eat.  
2 horses come.  
9 horses in all

Column addition with sums of 9 or less. As a learning aid the teacher will tell the class a number to think which will be the sum of the top two numbers of an example. Then the teacher

will write the third number of the example on the board. This will be class practice.

provide a large thermometer with a sliding ribbon as suggested in the Teachers Edition.

Reading a thermometer. Children will locate the part of the thermometer on the whole thermometer at the left, but they will read the temperature from the enlarged parts. If possible,



Can you answer?



1. This is Jack's dog.

C

This is how to find his name.

A    B    C    K    E    I    L

first letter B . . . second box

second letter L . . . last box

third letter A . . . first box

fourth letter C . . . third box

fifth letter K . . . fourth box

sixth letter I . . . sixth box

last letter L . . . fifth box

B    L    A    C    K    I    L

2. Each clock shows what time?



A

10



B

W

3. A

B

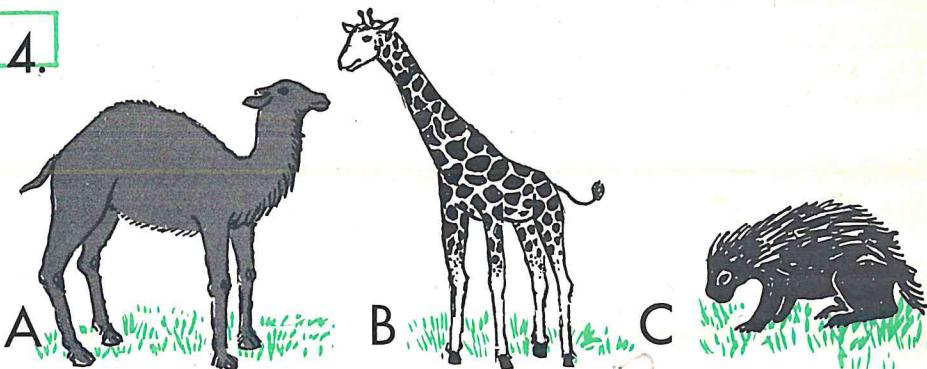
C



Which is the longest? C

Which is the shortest? B

4.



A

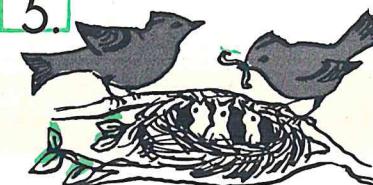
B

C

Which is the tallest? B

Which is the shortest? C

5.



MAY

S	M	T	W	T	F	S
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

What day of the week is

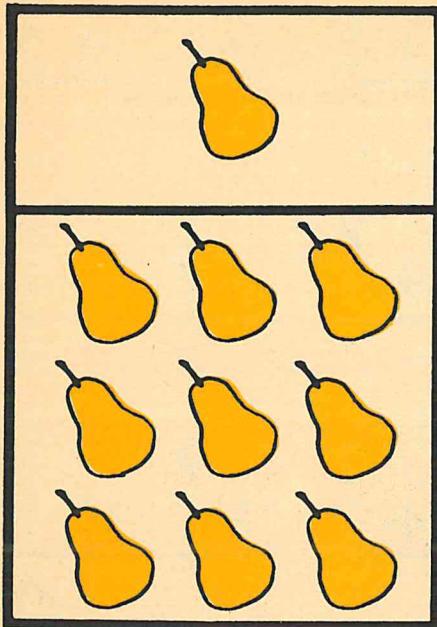
May 3? S

May 16? T

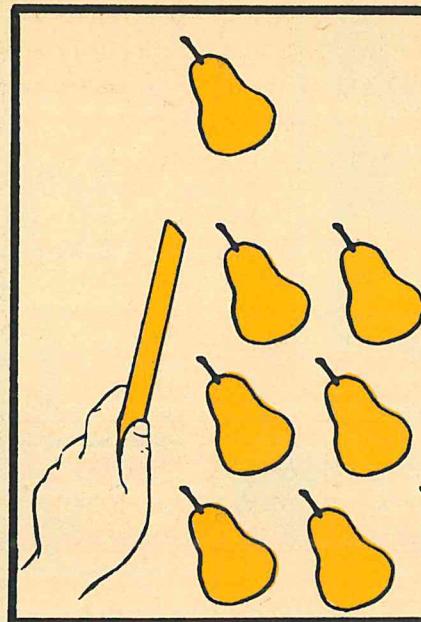
May 7? M

May 26? F

### A Way to Group 10 ⚡s



$$\begin{array}{r} + 9 \\ \hline 10 \end{array}$$



C

$$\begin{array}{r} 1 \\ + 9 \\ \hline 10 \end{array} \quad \begin{array}{r} 6 \\ + 2 \\ \hline 11 \end{array} \quad \begin{array}{r} 1 \\ + 9 \\ \hline 10 \end{array} \quad \begin{array}{r} 5 \\ + 4 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 5 \\ + 2 \\ \hline 7 \end{array} \quad \begin{array}{r} 1 \\ + 9 \\ \hline 10 \end{array} \quad \begin{array}{r} 2 \\ + 6 \\ \hline 8 \end{array} \quad \begin{array}{r} 1 \\ + 9 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 4 \\ + 5 \\ \hline 9 \end{array} \quad \begin{array}{r} 1 \\ + 9 \\ \hline 10 \end{array} \quad \begin{array}{r} 2 \\ + 5 \\ \hline 7 \end{array} \quad \begin{array}{r} 1 \\ + 9 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 10 \\ - 9 \\ \hline 1 \end{array} \quad \begin{array}{r} 8 \\ - 2 \\ \hline 6 \end{array} \quad \begin{array}{r} 10 \\ - 9 \\ \hline 1 \end{array} \quad \begin{array}{r} 9 \\ - 4 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 10 \\ - 2 \\ \hline 8 \end{array} \quad \begin{array}{r} 10 \\ - 9 \\ \hline 1 \end{array} \quad \begin{array}{r} 8 \\ - 6 \\ \hline 2 \end{array} \quad \begin{array}{r} 10 \\ - 9 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 9 \\ - 5 \\ \hline 4 \end{array} \quad \begin{array}{r} 10 \\ - 9 \\ \hline 1 \end{array} \quad \begin{array}{r} 7 \\ - 5 \\ \hline 2 \end{array} \quad \begin{array}{r} 10 \\ - 9 \\ \hline 1 \end{array}$$

$$\begin{array}{r} + 9 \\ \hline 10 \end{array} \quad \begin{array}{r} 1 \\ + 9 \\ \hline 10 \end{array} \quad \begin{array}{r} 1 \\ + 9 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 10 \\ - 9 \\ \hline 1 \end{array} \quad \begin{array}{r} 10 \\ - 9 \\ \hline 1 \end{array} \quad \begin{array}{r} 10 \\ - 9 \\ \hline 1 \end{array}$$

the story; men ~~run~~ in the missing numbers. Follow a similar plan for  $10 - 9 = 1$ .

Visualizing related facts:  $+ 9$  and  $- 9$  are  $\rightarrow$ . Children talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk picture of

1 ⚡

10 is 1 and 9.

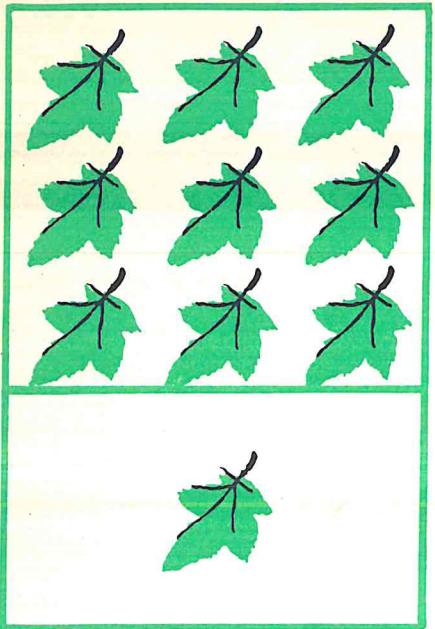
10 ⚡s

$$\begin{array}{r} + 9 \\ \hline 10 \end{array}$$

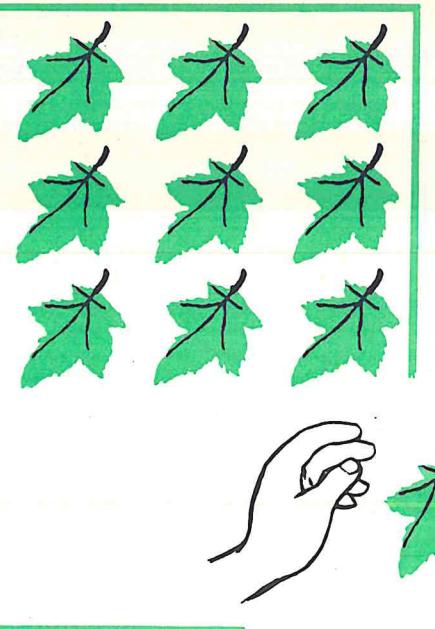
10 is 1 and 9.

$$\begin{array}{r} - 9 \\ \hline 1 \end{array}$$

$$1 + 9 = \underline{10}$$

A Way to Group 10 s

$$\begin{array}{r} 9 \\ + 1 \\ \hline 10 \end{array}$$



$$\begin{array}{r} 10 \\ - 1 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 9 \\ + 1 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 9 \\ + 1 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 10 \\ - 1 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 9 \\ + 1 \\ \hline 10 \end{array}$$

10 is 9 and 1.  
10 is 9 and 1.  
 $9 + 1 = 10$

$$\begin{array}{r} 10 \\ - 1 \\ \hline 9 \end{array}$$

Visualizing related facts  $9 + 1 = 10$  and  $10 - 1 = 9$ . Children talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk picture of

the story; then fill in the missing numbers. Follow a similar plan for  $10 - 1 = 9$ .

$$\begin{array}{r} 4 \\ + 5 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 9 \\ + 1 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 2 \\ + 7 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 9 \\ + 1 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 1 \\ + 1 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 10 \\ - 1 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 9 \\ - 2 \\ \hline 7 \end{array}$$

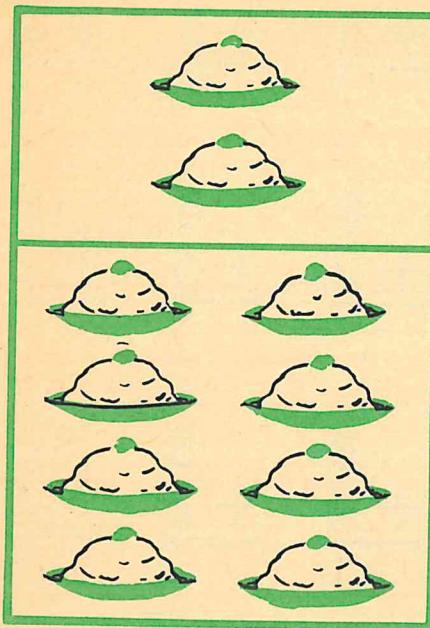
$$\begin{array}{r} 10 \\ - 1 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 9 \\ - 7 \\ \hline 2 \end{array}$$

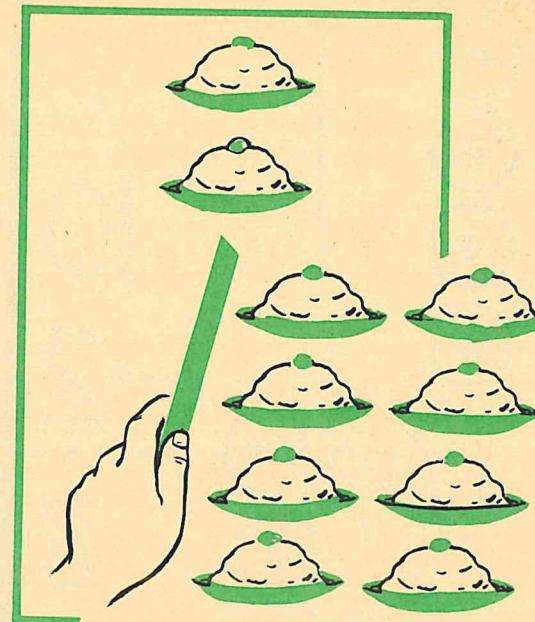
$$\begin{array}{r} 10 \\ - 1 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 10 \\ - 1 \\ \hline 9 \end{array}$$

# A Way to Group 10 s



$+ 2$



$+ 10$

C

$$\begin{array}{r}
 + 2 \\
 10 \\
 \hline
 12
 \end{array}
 \quad
 \begin{array}{r}
 + 4 \\
 9 \\
 \hline
 13
 \end{array}
 \quad
 \begin{array}{r}
 + 5 \\
 4 \\
 \hline
 9
 \end{array}
 \quad
 \begin{array}{r}
 + 9 \\
 10 \\
 \hline
 19
 \end{array}
 \quad
 \begin{array}{r}
 + 2 \\
 8 \\
 \hline
 10
 \end{array}
 \quad
 \begin{array}{r}
 + 7 \\
 2 \\
 \hline
 9
 \end{array}$$

$$\begin{array}{r}
 + 9 \\
 1 \\
 \hline
 10
 \end{array}
 \quad
 \begin{array}{r}
 + 2 \\
 8 \\
 \hline
 10
 \end{array}
 \quad
 \begin{array}{r}
 + 7 \\
 2 \\
 \hline
 9
 \end{array}
 \quad
 \begin{array}{r}
 + 2 \\
 8 \\
 \hline
 10
 \end{array}
 \quad
 \begin{array}{r}
 + 2 \\
 7 \\
 \hline
 9
 \end{array}$$

$$\begin{array}{r}
 - 9 \\
 2 \\
 \hline
 10
 \end{array}
 \quad
 \begin{array}{r}
 - 5 \\
 1 \\
 \hline
 6
 \end{array}
 \quad
 \begin{array}{r}
 - 10 \\
 8 \\
 \hline
 2
 \end{array}
 \quad
 \begin{array}{r}
 - 9 \\
 2 \\
 \hline
 10
 \end{array}
 \quad
 \begin{array}{r}
 - 9 \\
 3 \\
 \hline
 10
 \end{array}$$

$$\begin{array}{r}
 - 4 \\
 5 \\
 \hline
 10
 \end{array}
 \quad
 \begin{array}{r}
 - 2 \\
 2 \\
 \hline
 10
 \end{array}
 \quad
 \begin{array}{r}
 - 9 \\
 7 \\
 \hline
 16
 \end{array}
 \quad
 \begin{array}{r}
 - 8 \\
 8 \\
 \hline
 2
 \end{array}$$

$$\begin{array}{r}
 + 2 \\
 8 \\
 \hline
 10
 \end{array}
 \quad
 \begin{array}{r}
 + 2 \\
 8 \\
 \hline
 10
 \end{array}
 \quad
 \begin{array}{r}
 + 2 \\
 8 \\
 \hline
 10
 \end{array}$$

$$\begin{array}{r}
 - 10 \\
 8 \\
 \hline
 2
 \end{array}
 \quad
 \begin{array}{r}
 - 8 \\
 8 \\
 \hline
 2
 \end{array}
 \quad
 \begin{array}{r}
 + 8 \\
 8 \\
 \hline
 2
 \end{array}$$

2  s

10 is 2 and 10.

+ 8  s

10 is 2 and 8.

P + 8  s

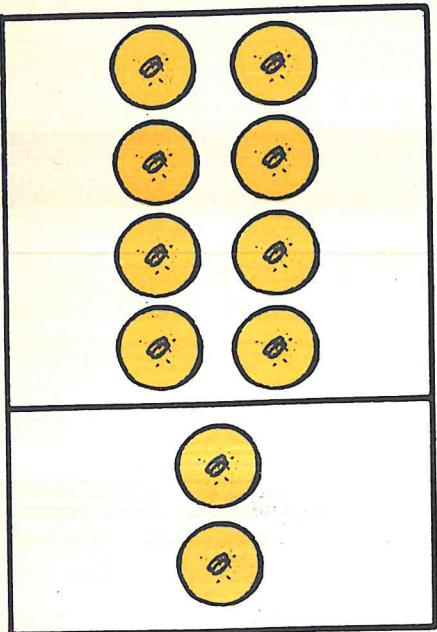
2 + 8 = 10

10  s

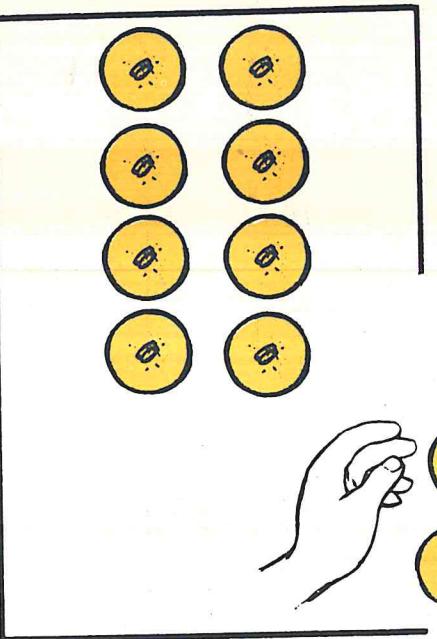
- 8  s

2  s

## A Way to Group 10 ⓧ's



$$\begin{array}{r} 8 \\ + 2 \\ \hline 10 \end{array}$$



$$\begin{array}{r} 10 \\ - 2 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 8 \\ + 2 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 10 \\ - 2 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 8 \\ + 2 \\ \hline 10 \end{array}$$

10 is 8 and 2.

10 is 8 and 2.

$8 + 2 = 10$

$$\begin{array}{r} 10 \\ - 2 \\ \hline 8 \end{array}$$

Visualizing related facts  $8 + 2 = 10$  and  $10 - 2 = 8$ . Children talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for  $10 - 2 = 8$ .

$\begin{array}{r} 8 \\ + 2 \\ \hline 10 \end{array}$	$\begin{array}{r} 8 \\ + 2 \\ \hline 10 \end{array}$	$\begin{array}{r} 3 \\ + 5 \\ \hline 8 \end{array}$	$\begin{array}{r} 10 \\ - 2 \\ \hline 8 \end{array}$
$\begin{array}{r} 4 \\ + 3 \\ \hline 7 \end{array}$	$\begin{array}{r} 3 \\ + 6 \\ \hline 9 \end{array}$	$\begin{array}{r} 8 \\ + 2 \\ \hline 10 \end{array}$	$\begin{array}{r} 10 \\ - 2 \\ \hline 8 \end{array}$
$\begin{array}{r} 6 \\ + 3 \\ \hline 9 \end{array}$	$\begin{array}{r} 8 \\ + 2 \\ \hline 10 \end{array}$	$\begin{array}{r} 3 \\ + 4 \\ \hline 7 \end{array}$	$\begin{array}{r} 10 \\ - 3 \\ \hline 7 \end{array}$
$\begin{array}{r} 8 \\ + 2 \\ \hline 10 \end{array}$	$\begin{array}{r} 5 \\ + 3 \\ \hline 8 \end{array}$	$\begin{array}{r} 8 \\ + 2 \\ \hline 10 \end{array}$	$\begin{array}{r} 10 \\ - 2 \\ \hline 8 \end{array}$
$\begin{array}{r} 10 \\ - 2 \\ \hline 8 \end{array}$	$\begin{array}{r} 9 \\ - 3 \\ \hline 6 \end{array}$	$\begin{array}{r} 10 \\ - 2 \\ \hline 8 \end{array}$	$\begin{array}{r} 10 \\ - 2 \\ \hline 8 \end{array}$
$\begin{array}{r} 7 \\ - 3 \\ \hline 4 \end{array}$	$\begin{array}{r} 9 \\ - 6 \\ \hline 3 \end{array}$	$\begin{array}{r} 8 \\ - 3 \\ \hline 5 \end{array}$	$\begin{array}{r} 8 \\ - 3 \\ \hline 5 \end{array}$

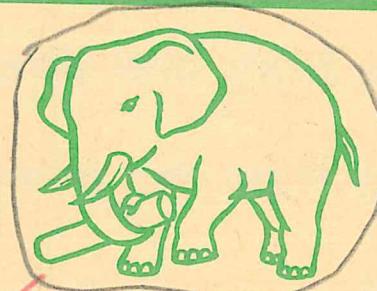
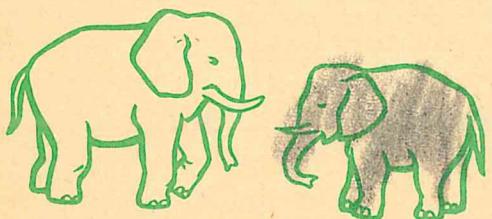
lengths, etc. At their seats the children follow the written directions.



C

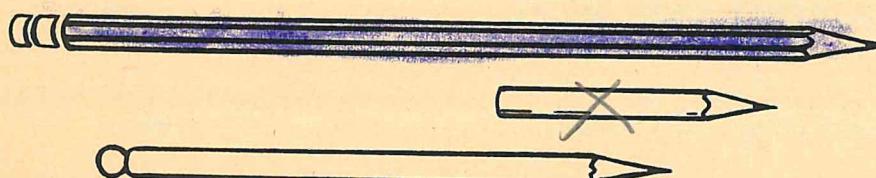
Put X on the most.

Put a ring around the fewest.



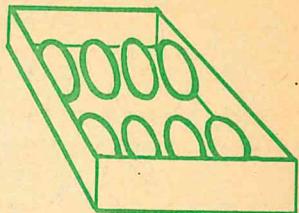
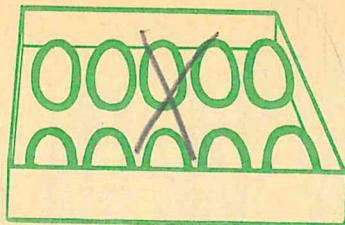
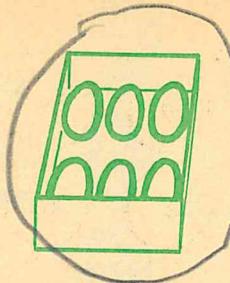
Color the largest.

Put a ring around the smallest.



Color the longest.

Put X on the shortest.



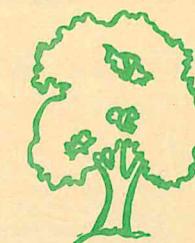
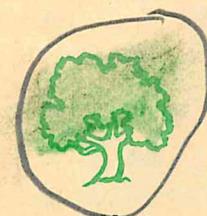
Put a ring around the most.

Put X on the fewest.



Color the tallest.

Put X on the shortest.



Color the tallest.

Put a ring around the shortest.

B-


~~15~~  
14

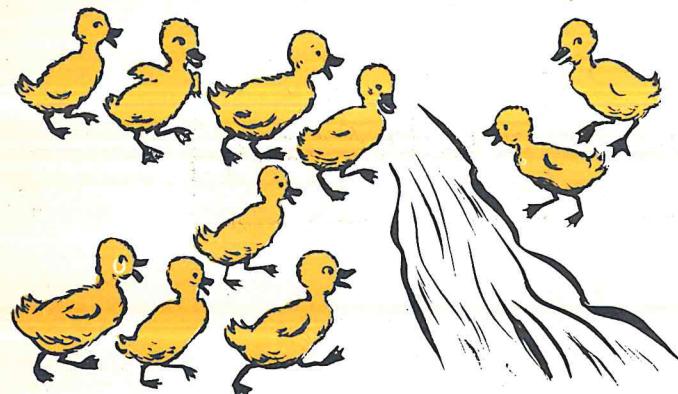

s were in Sally's flower garden.

~~14~~  
5


s were broken by the wind.

~~5~~  
5


s are left standing.


~~8~~  
8

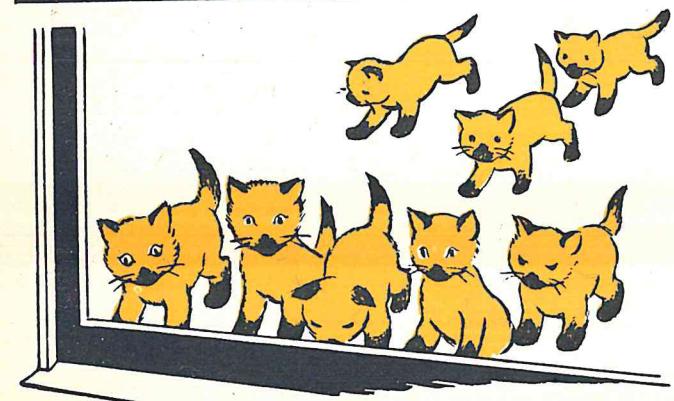
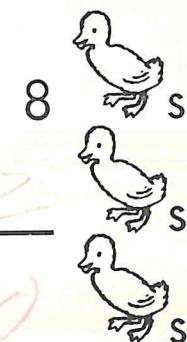

s come from one side.

~~2~~  
2


s come from the other side.

~~10~~  
10

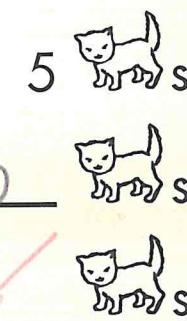

s in all


~~5~~  
5
s are looking out of a .
~~3~~  
3


s are coming to look.

~~8~~  
8


s in all



$$1 \text{ foot} = \underline{12} \text{ inches}$$

$$2 \text{ pints} = \underline{1\frac{1}{2}} \text{ quart}$$

$$1 \text{ quart} = \underline{2} \text{ pints}$$

doughnuts, etc.) In class they answer the questions orally. At their seats children will mark and write the correct answers.

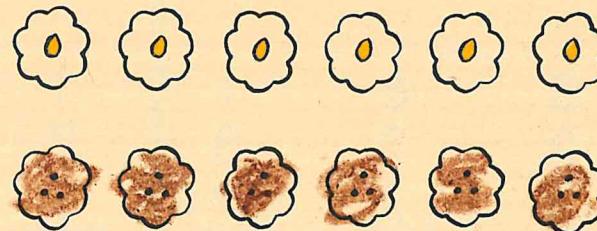


There are 12 things  
in 1 dozen.

- Are there 1 dozen  s? Yes No
- Are there 1 dozen  s? Yes No
- Are there 1 dozen eggs? Yes No
- Are there 1 dozen pieces of  ? Yes No

B

There are 6 things in a half dozen.



Is this  
1 dozen  s?

Yes      No

Color a half dozen  s brown.

How many  s did you color? F 6

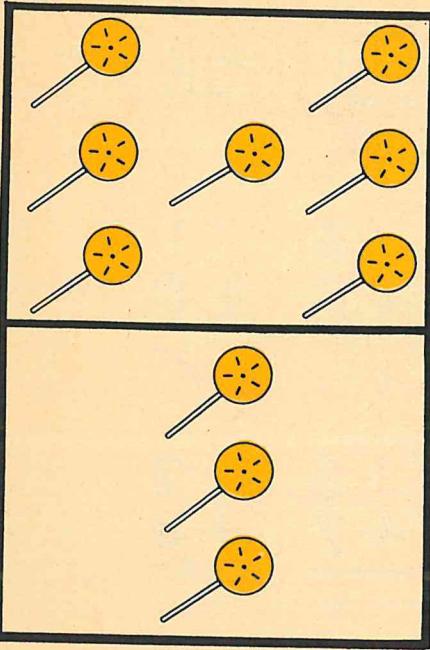
How many  s are white? 6

1 dozen  s is 6  s + 6 more  s.

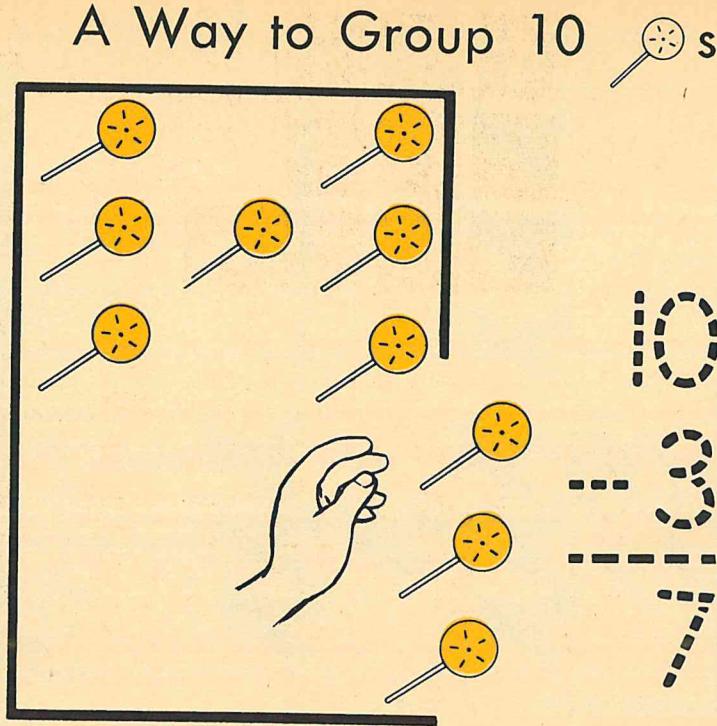


picture of the story; then fill in the missing numbers. Follow a similar plan for  $10 - 3 = 7$ .

**VISUALIZING THE RELATED FACTS**  $7 + 3 = 10$  and  $10 - 3 = 7$ . Children talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk



$$\begin{array}{r} 7 \\ + 3 \\ \hline 10 \end{array}$$



$$\begin{array}{r} 10 \\ - 3 \\ \hline 7 \end{array}$$

$\overline{0}$	$+ 3$	$\overline{7}$	$\overline{7}$	$\overline{10}$	$\overline{10}$
$\overline{10}$	$- 3$	$\overline{7}$	$\overline{3}$	$\overline{7}$	$\overline{10}$

$\overline{7}$	$- 3$	$\overline{10}$	$\overline{- 3}$	$\overline{- 10}$	$\overline{+ 3}$
$\overline{7}$	$\overline{7}$	$\overline{10}$	$\overline{3}$	$\overline{- 7}$	$\overline{+ 7}$

$\overline{7}$	$\overline{+ 3}$	$\overline{10}$
$\overline{10}$	$\overline{- 3}$	$\overline{7}$

10 is 7 and 3.  
10 is 7 and 3.  
 $7 + 3 = \underline{10}$

$\overline{10}$	$- 3$	$\overline{7}$
$\overline{7}$	$\overline{- 3}$	$\overline{10}$

$$\begin{array}{r} 10 \\ - 3 \\ \hline 7 \end{array}$$

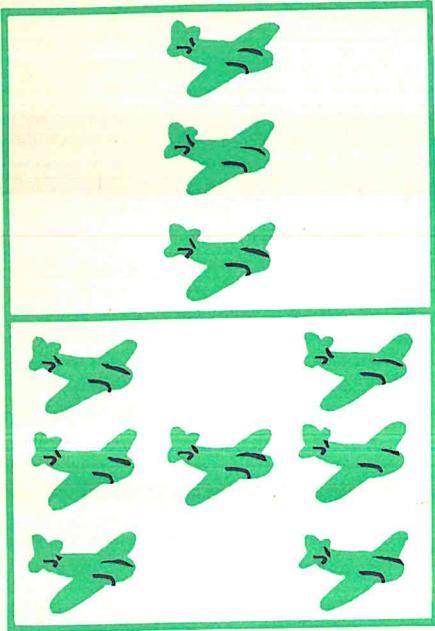
$$\begin{array}{r} 10 \\ - 1 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 10 \\ - 9 \\ \hline 1 \end{array}$$

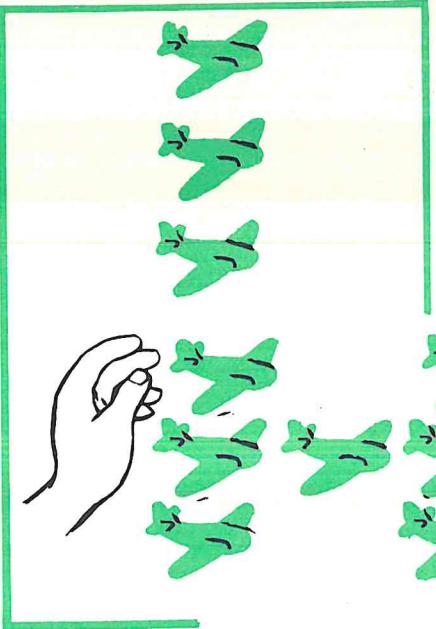
$$\begin{array}{r} 10 \\ - 3 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 10 \\ - 5 \\ \hline 5 \end{array}$$

D

A Way to Group 10  s

$$\begin{array}{r} 3 \\ + 7 \\ \hline 10 \end{array}$$



$$\begin{array}{r} 10 \\ - 7 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 3 \\ + 7 \\ \hline 10 \end{array}$$

+3	+3	+3
7	7	7
10	10	10

$$\begin{array}{r} 10 \\ - 7 \\ \hline 3 \end{array}$$

10	10	10
-7	-7	-7
3	3	3

$$\begin{array}{r} 3 \\ + 7 \\ \hline 10 \end{array}$$

3  s

10 is 3 and 7.  
10 is 3 and 7.  
 $3 + 7 = \underline{10}$

$$\begin{array}{r} 10 \\ - 7 \\ \hline 3 \end{array}$$

10  s  
-7  s  
3  s

C

$$\begin{array}{r} 8 \\ + 1 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 3 \\ + 7 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 10 \\ - 8 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 3 \\ + 7 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 2 \\ + 8 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 10 \\ - 7 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 9 \\ - 1 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 10 \\ - 2 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 10 \\ - 7 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 10 \\ - 7 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 10 \\ - 7 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 10 \\ - 7 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 10 \\ - 7 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 10 \\ - 7 \\ \hline 3 \end{array}$$

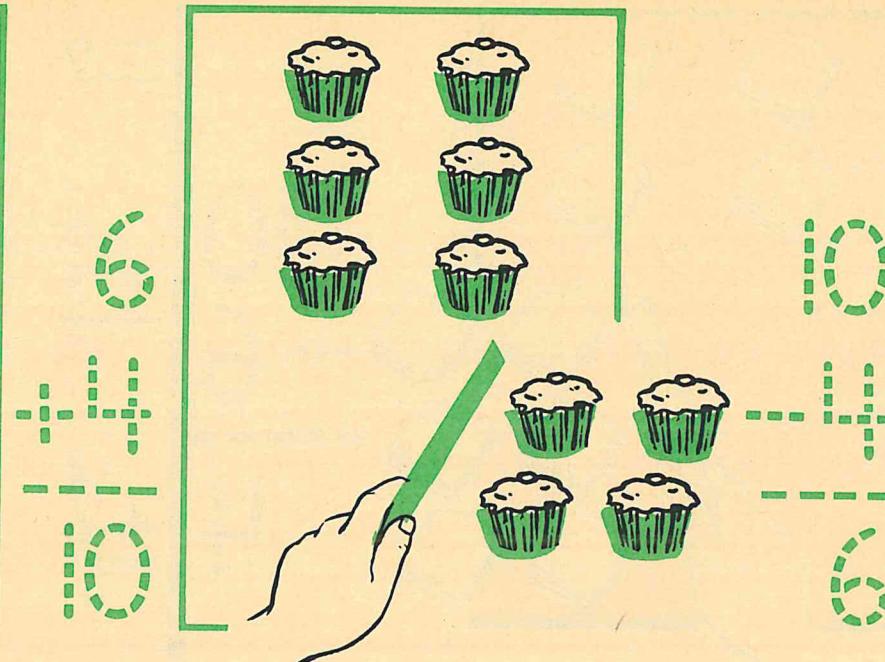
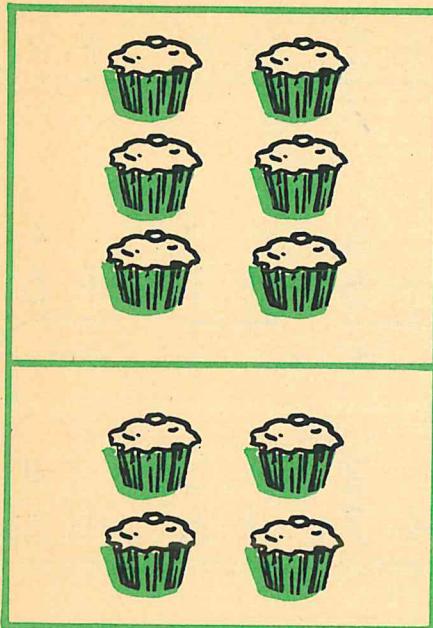
$$\begin{array}{r} 10 \\ - 7 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 10 \\ - 7 \\ \hline 3 \end{array}$$

Visualizing the related facts  $3 + 7 = 10$  and  $10 - 7 = 3$ . Children talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk

picture of the story; then fill in the missing numbers. Follow a similar plan for  $10 - 7 = 3$ .

C

A Way to Group 10 

$$\begin{array}{r} + \\ \begin{array}{r} 6 \\ + 4 \\ \hline 10 \end{array} \end{array}$$

$$\begin{array}{r} - \\ \begin{array}{r} 10 \\ - 4 \\ \hline 6 \end{array} \end{array}$$

6 cakes

10 is 6 and 4.

$$\begin{array}{r} + \\ \begin{array}{r} 10 \\ 4 \\ \hline 10 \end{array} \end{array}$$

$$10 \text{ is } \underline{10} \text{ and } 4.$$

$6 + 4 = \underline{10}$

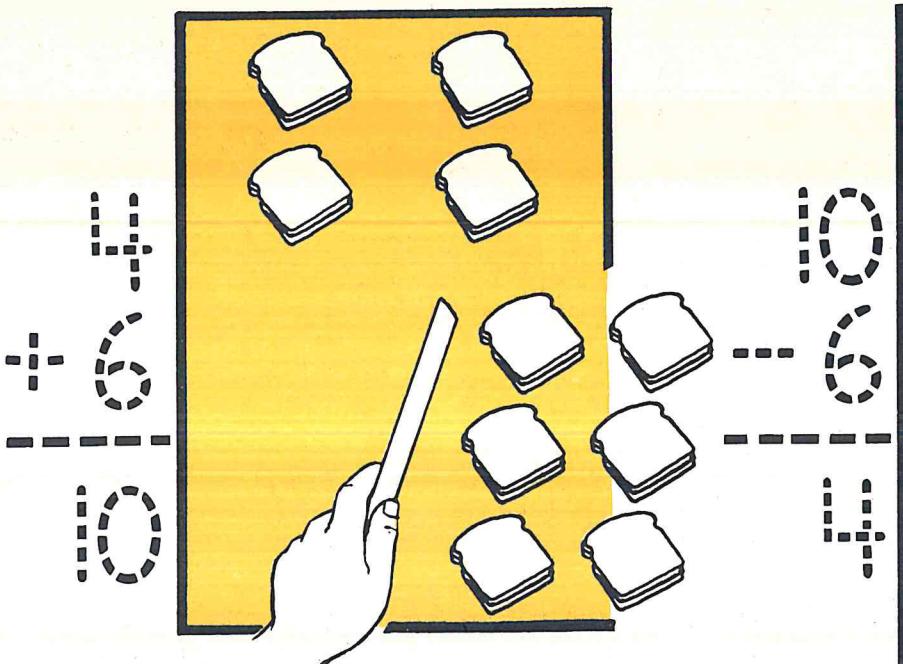
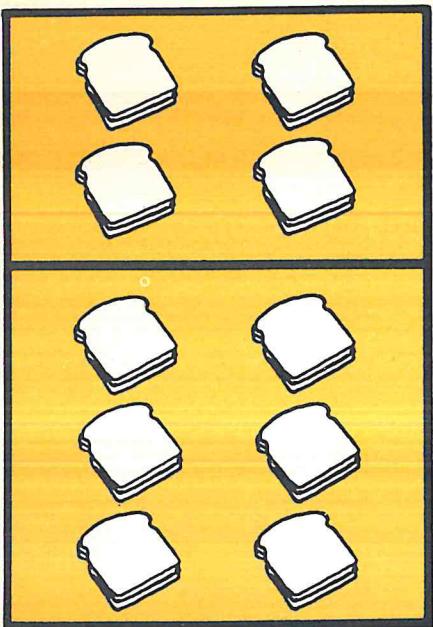
10 cakes

$$\begin{array}{r} - \\ \begin{array}{r} 10 \\ 4 \\ \hline 6 \end{array} \end{array}$$

$\begin{array}{r} + \\ \begin{array}{r} 6 \\ 4 \\ \hline 10 \end{array} \end{array}$	$\begin{array}{r} + \\ \begin{array}{r} 7 \\ 3 \\ \hline 10 \end{array} \end{array}$	$\begin{array}{r} + \\ \begin{array}{r} 6 \\ 4 \\ \hline 10 \end{array} \end{array}$	$\begin{array}{r} + \\ \begin{array}{r} 8 \\ 1 \\ \hline 9 \end{array} \end{array}$
$\begin{array}{r} + \\ \begin{array}{r} 2 \\ 6 \\ \hline 10 \end{array} \end{array}$	$\begin{array}{r} + \\ \begin{array}{r} 4 \\ 6 \\ \hline 10 \end{array} \end{array}$	$\begin{array}{r} + \\ \begin{array}{r} 7 \\ 3 \\ \hline 10 \end{array} \end{array}$	$\begin{array}{r} + \\ \begin{array}{r} 6 \\ 4 \\ \hline 10 \end{array} \end{array}$
$\begin{array}{r} + \\ \begin{array}{r} 4 \\ 6 \\ \hline 10 \end{array} \end{array}$	$\begin{array}{r} + \\ \begin{array}{r} 1 \\ 8 \\ \hline 9 \end{array} \end{array}$	$\begin{array}{r} + \\ \begin{array}{r} 6 \\ 2 \\ \hline 8 \end{array} \end{array}$	$\begin{array}{r} + \\ \begin{array}{r} 4 \\ 6 \\ \hline 10 \end{array} \end{array}$
$\begin{array}{r} - \\ \begin{array}{r} 10 \\ 4 \\ \hline 6 \end{array} \end{array}$	$\begin{array}{r} - \\ \begin{array}{r} 10 \\ 3 \\ \hline 7 \end{array} \end{array}$	$\begin{array}{r} - \\ \begin{array}{r} 10 \\ 4 \\ \hline 6 \end{array} \end{array}$	$\begin{array}{r} - \\ \begin{array}{r} 9 \\ 1 \\ \hline 8 \end{array} \end{array}$
$\begin{array}{r} - \\ \begin{array}{r} 2 \\ 8 \\ \hline 6 \end{array} \end{array}$	$\begin{array}{r} - \\ \begin{array}{r} 4 \\ 7 \\ \hline 3 \end{array} \end{array}$	$\begin{array}{r} - \\ \begin{array}{r} 7 \\ 4 \\ \hline 3 \end{array} \end{array}$	$\begin{array}{r} - \\ \begin{array}{r} 4 \\ 6 \\ \hline 2 \end{array} \end{array}$

picture of the story; then fill in the missing numbers. Follow  
a similar plan for  $10 - 4 = 6$ .

Visualizing the related facts  $6 + 4 = 10$  and  $10 - 4 = 6$ .  
Children talk about the number story in the grouped picture  
at the left; dramatize the story with objects; make a disk

A Way to Group 10 s

$$\begin{array}{r} 4 \\ + 6 \\ \hline 10 \end{array}$$

4	4	4
$\frac{+ 6}{10}$	$\frac{- 6}{10}$	$\frac{+ 6}{10}$
10	10	10

$$\begin{array}{r} 10 \\ - 6 \\ \hline 4 \end{array}$$

10	6	4
$\cancel{- 6}$	$\cancel{4}$	$\checkmark$
4		$\checkmark$

4 s

$$\begin{array}{r} + 6 \\ \hline 10 \end{array}$$

s

10 is 4 and 6.

$$\begin{array}{r} 10 \\ - 6 \\ \hline 4 \end{array}$$

s

$$4 + 6 = 10$$

10 s

$$\begin{array}{r} - 6 \\ \hline 4 \end{array}$$

s

C

$$\begin{array}{r} 4 \\ + 6 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 5 \\ + 6 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 4 \\ + 6 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 3 \\ + 6 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 2 \\ + 7 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 10 \\ - 6 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 6 \\ - 5 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 10 \\ - 3 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 6 \\ - 6 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 9 \\ - 2 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 10 \\ - 6 \\ \hline 4 \end{array}$$

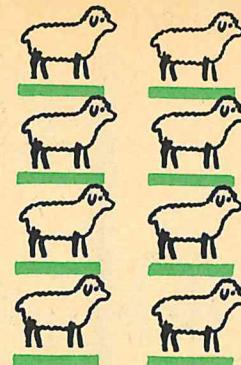
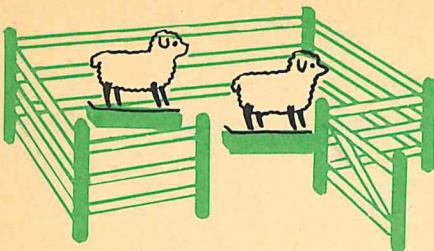
$$\begin{array}{r} 7 \\ - 5 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 9 \\ - 6 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 10 \\ - 6 \\ \hline 4 \end{array}$$

Visualizing the related facts  $4 + 6 = 10$  and  $10 - 6 = 4$ . Children talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk

picture of the story; then fill in the missing numbers. Follow a similar plan for  $10 - 6 = 4$ .

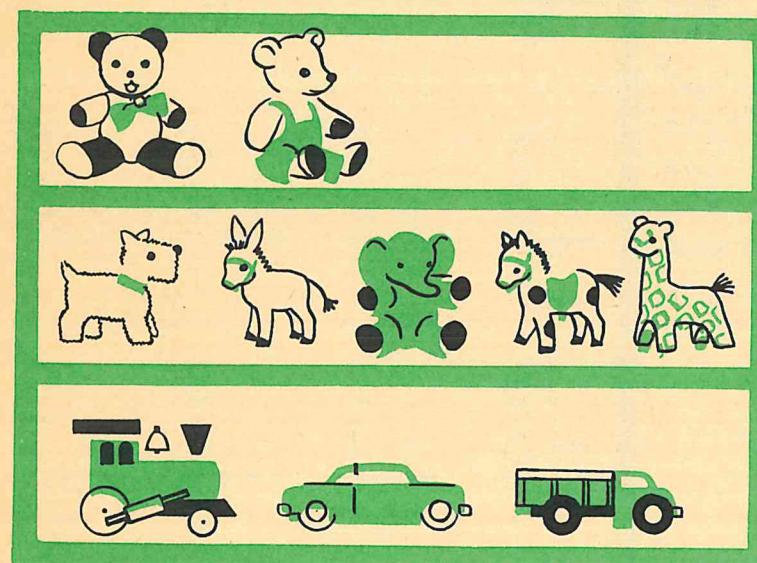


Jack has 2 toy sheep in the pen.

Jack has 8 more toy sheep.

Jack has 10 toy sheep in all.

<u>2</u>
<u>8</u>
<u>10</u>



Bob put 2 toys on the top

He put 5 toys on the next

He put 3 toys on the bottom

He has 10 toys in all.

<u>2</u>
<u>5</u>
<u>3</u>
<u>10</u>



10

2 s in all

2 s break.

8 s are left.

<u> </u>
----------



10

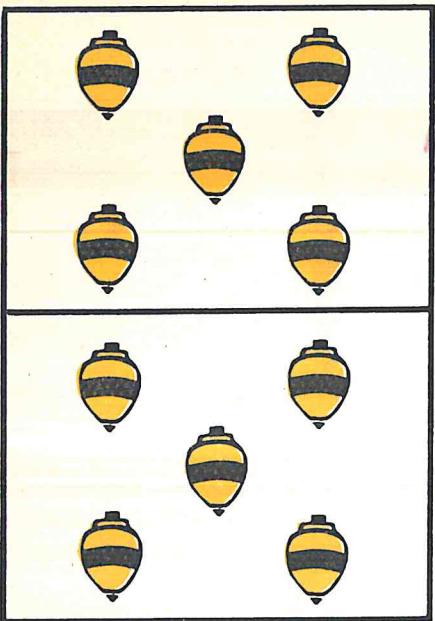
10 cups in all

1 cup breaks.

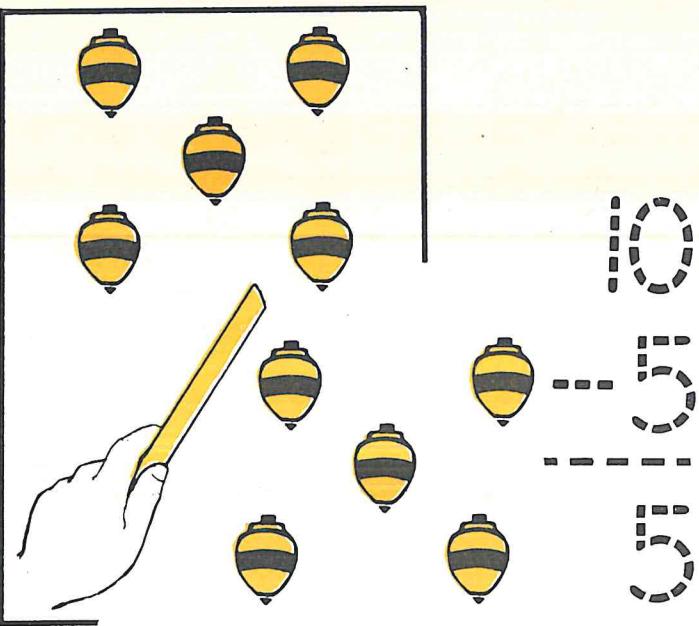
9 cups are left.

<u>10</u>
<u>1</u>
<u>9</u>

## A Way to Group 10 ⚡'s



$$\begin{array}{r} 5 \\ + 5 \\ \hline 10 \end{array}$$



$$\begin{array}{r} 5 \\ + 5 \\ \hline 10 \end{array} \quad \begin{array}{r} 5 \\ + 5 \\ \hline 10 \end{array} \quad \begin{array}{r} 4 \\ + 5 \\ \hline 9 \end{array} \quad \begin{array}{r} 5 \\ + 5 \\ \hline 10 \end{array} \quad \begin{array}{r} 10 \\ - 5 \\ \hline 5 \end{array} \quad \begin{array}{r} 10 \\ - 5 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 5 \\ + 5 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 10 \\ - 5 \\ \hline 5 \end{array}$$

5 tops  
+ 5 tops  
 $\hline$   
10 tops

10 is 5 and 5.  
10 is 5 and 5.  
 $5 + 5 = 10$

10 tops  
- 5 tops  
 $\hline$   
5 tops

Visualizing the related facts  $5 + 5 = 10$  and  $10 - 5 = 5$ . Children talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk

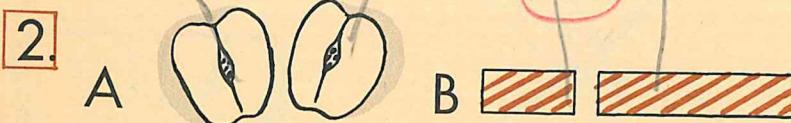
picture of the story; then fill in the missing numbers. Follow a similar plan for  $10 - 5 = 5$ .



Circle the finding numbers that tell.

first      second      third

fourth      fifth



Which is cut in half? B A

3. What number comes:

a. after 49? 50      b. before 70? 69

c. between 58 and 60? 59

4.  $34 =$  3 tens and 4 ones.

5.  $50 =$  5 tens and 0 ones.

6. This clock shows what time? 5:30

Can you answer?

7. Which is more?

- a. 1 quart or 3 pints
- b. 3 cups or 1 quart

F

10  
78

8. Which number is the most?

160      116      106

60

9.



Each of 2 boys gets the same.

Each boy gets 6 s.

10. One half dollar is as much money as:

- a. 1 quarters.      c. 9 nickels.
- b. 8 dimes.      d. 10 pennies.

11. a. One dozen = 12 eggs.

b. A half dozen = 6 eggs.

12. Tom's dog

$8\frac{1}{2}$  pounds

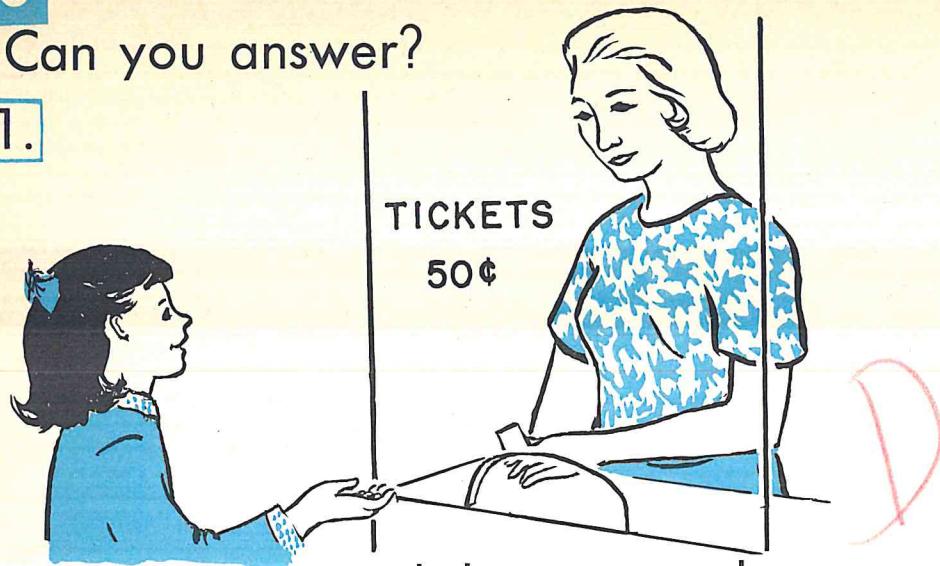
Jane's dog

9 pounds

Which dog weighs more? Tom's dog

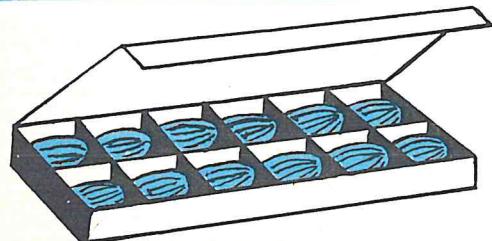
Can you answer?

1.



Put a ring around the money that Sally can use to buy a ticket for 50¢.  
3 dimes 2 quarters 5 nickels

2.



Yes or No

Is a dozen  $6 + 6$ ?

Yes No

Is a dozen 2 sixes?

Yes No

Is a dozen 6 twos?

Yes No

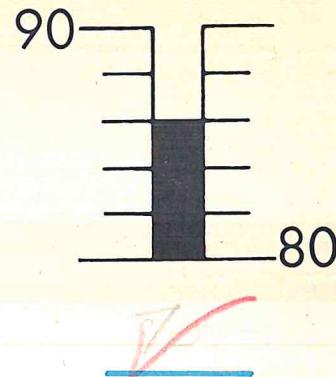
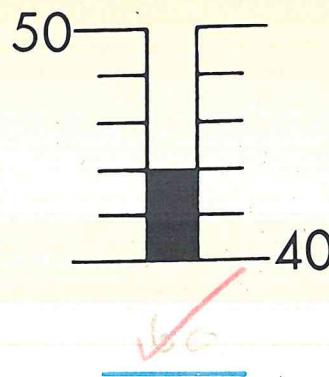
Is half a dozen 2 fours?

Yes No

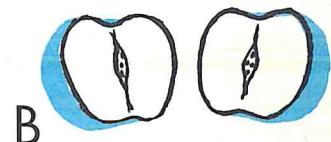
Is half a dozen 3 twos?

Yes No

3.



4.



Which picture shows one half? B

5.

- The number after 159 is 160.
- The number before 170 is 169.
- What number comes between 129 and 131? 130
- The number 109 means 1 hundred 10 tens 9 ones.

$$\begin{array}{r} 5 \\ 1 \\ 4 \end{array} \quad \begin{array}{r} 5 \\ 1 \\ 4 \end{array} \quad > \quad \begin{array}{r} 10 \\ 10 \end{array}$$

$$\begin{array}{r} 2 \\ 5 \\ 3 \end{array} \quad \begin{array}{r} 10 \\ 10 \end{array}$$

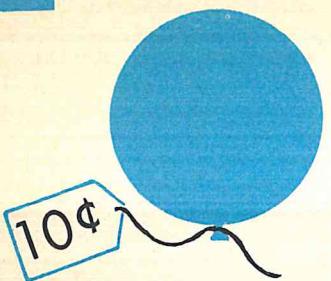
$$\begin{array}{r} 3 \\ 5 \\ 2 \end{array} \quad \begin{array}{r} 10 \\ 10 \end{array}$$

F

suggested on page 112.

Column addition with sums of 10 or less. In class give practice on adding a seen number to a thought-of number as suggested on page 112.

$\begin{array}{r} 1 \\ 6 \\ 3 \end{array}$	$\begin{array}{r} 2 \\ 6 \\ 10 \end{array}$	$\begin{array}{r} 3 \\ 4 \\ 8 \end{array}$	$\begin{array}{r} 6 \\ 0 \\ 10 \end{array}$	$\begin{array}{r} 2 \\ 5 \\ 6 \end{array}$	$\begin{array}{r} 4 \\ 3 \\ 9 \end{array}$	$\begin{array}{r} 2 \\ 4 \\ 7 \end{array}$	$\begin{array}{r} 7 \\ 0 \\ 10 \end{array}$	$\begin{array}{r} 2 \\ 3 \\ 8 \end{array}$	$\begin{array}{r} 5 \\ 2 \\ 10 \end{array}$	$\begin{array}{r} 1 \\ 7 \\ 8 \end{array}$	$\begin{array}{r} 6 \\ 0 \\ 10 \end{array}$
$\begin{array}{r} 5 \\ 4 \\ 9 \end{array}$	$\begin{array}{r} 1 \\ 3 \\ 7 \end{array}$	$\begin{array}{r} 2 \\ 1 \\ 8 \end{array}$	$\begin{array}{r} 2 \\ 3 \\ 7 \end{array}$	$\begin{array}{r} 3 \\ 5 \\ 7 \end{array}$	$\begin{array}{r} 3 \\ 0 \\ 8 \end{array}$	$\begin{array}{r} 6 \\ 1 \\ 10 \end{array}$	$\begin{array}{r} 1 \\ 0 \\ 8 \end{array}$	$\begin{array}{r} 1 \\ 3 \\ 5 \end{array}$	$\begin{array}{r} 5 \\ 3 \\ 9 \end{array}$	$\begin{array}{r} 4 \\ 0 \\ 8 \end{array}$	$\begin{array}{r} 5 \\ 0 \\ 9 \end{array}$
$\begin{array}{r} 3 \\ 6 \\ 8 \end{array}$	$\begin{array}{r} 5 \\ 2 \\ 9 \end{array}$	$\begin{array}{r} 1 \\ 5 \\ 9 \end{array}$	$\begin{array}{r} 1 \\ 2 \\ 8 \end{array}$	$\begin{array}{r} 2 \\ 1 \\ 5 \end{array}$	$\begin{array}{r} 4 \\ 2 \\ 10 \end{array}$	$\begin{array}{r} 4 \\ 1 \\ 9 \end{array}$	$\begin{array}{r} 8 \\ 0 \\ 9 \end{array}$	$\begin{array}{r} 1 \\ 4 \\ 7 \end{array}$	$\begin{array}{r} 3 \\ 2 \\ 8 \end{array}$	$\begin{array}{r} 4 \\ 2 \\ 9 \end{array}$	$\begin{array}{r} 2 \\ 3 \\ 10 \end{array}$

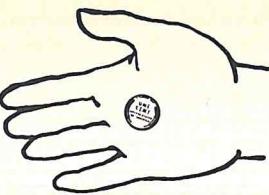
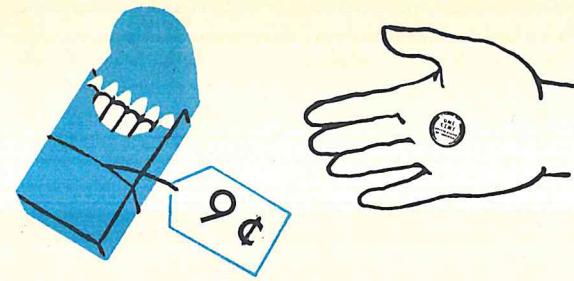


The balloon costs 10 ¢.

I have only 5 ¢.

I still need 5 ¢.

$$5 \text{ ¢} + \underline{5} \text{ ¢} = 10 \text{ ¢}$$

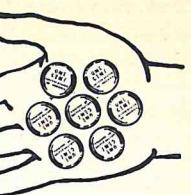
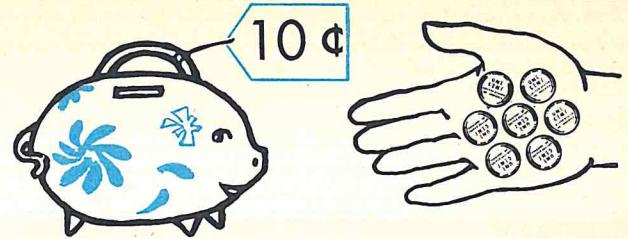


The box costs 9 ¢.

I have only 1 ¢.

I still need 8 ¢.

$$1 \text{ ¢} + \underline{8} \text{ ¢} = 9 \text{ ¢}$$

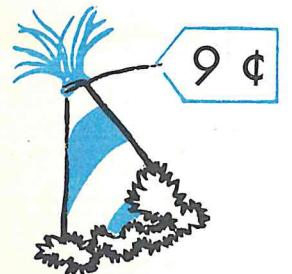


The bank costs 7 ¢.

I have only 1 ¢.

I still need 6 ¢.

$$7 \text{ ¢} + \underline{3} \text{ ¢} = 10 \text{ ¢}$$

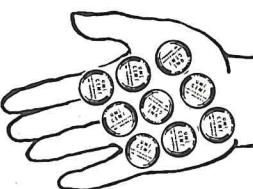
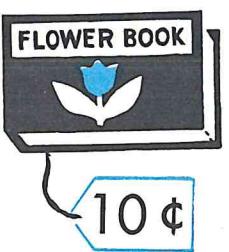


The party hat costs 8 ¢.

I have only 1 ¢.

I still need 7 ¢.

$$8 \text{ ¢} + \underline{1} \text{ ¢} = 9 \text{ ¢}$$

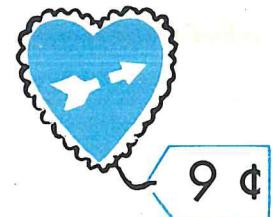


The book costs 9 ¢.

I have only 1 ¢.

I still need 8 ¢.

$$9 \text{ ¢} + \underline{1} \text{ ¢} = 10 \text{ ¢}$$



The heart costs 4 ¢.

I have only 1 ¢.

I still need 3 ¢.

$$4 \text{ ¢} + \underline{5} \text{ ¢} = 9 \text{ ¢}$$

**Subtraction concept:** How much more money is needed? In each picture the children see how much the article costs; count the pennies shown in the hand; and subtract the amount

shown from the cost. They also think (as in problem 1):

$5 \text{ ¢} + \underline{\quad} \text{ ¢} = 10 \text{ ¢}$ .

sired, the teacher may let the children set up a play cafeteria in the classroom. Children can use mounted pictures of foods.

milk b 5 ¢

roll L 3 ¢

soup X 7 ¢

apple b 4 ¢

meat ball + 10 ¢

cake 3 6 ¢



1. How much does each cost?

roll ✓ ¢

soup 7 ¢

cake 3 ¢

meat ball ✓ ¢

apple ✓ ¢

milk b ¢

2. How much do both cost?

roll 3 ¢

roll 3 ¢

apple 4 ¢

soup 7 ¢

milk 5 ¢

apple 4 ¢

milk 5 ¢

roll 3 ¢

both ✓ ¢

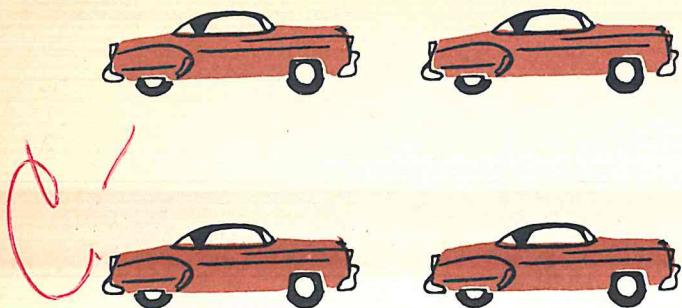
both ✓ ¢

both ✓ ¢

both ✓ ¢

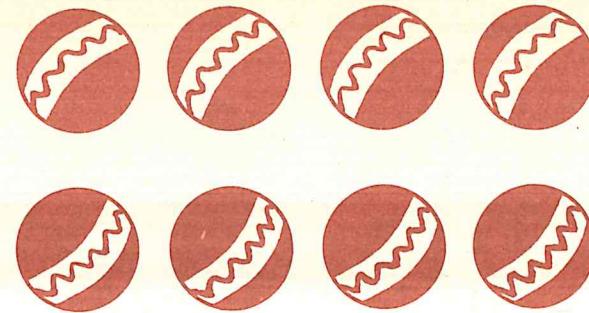
3. Write one thing a child can buy for:





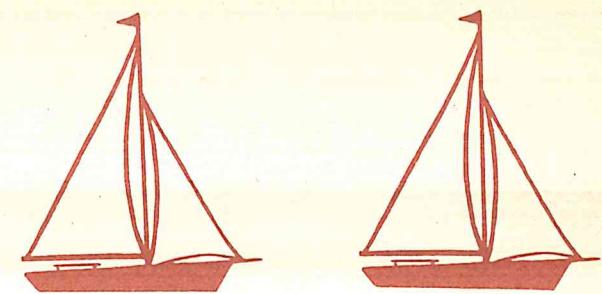
2 twos are 4.

Half of 4 is ✓.



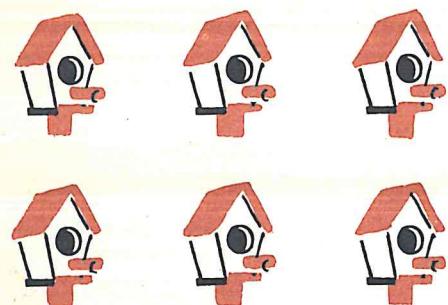
2 fours are 8.

Half of 8 is ✓.



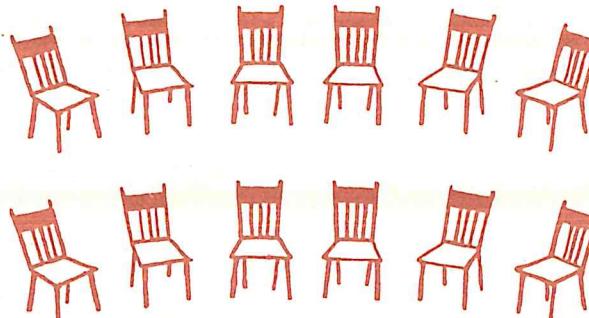
2 ones are 2.

Half of 2 is ✓.



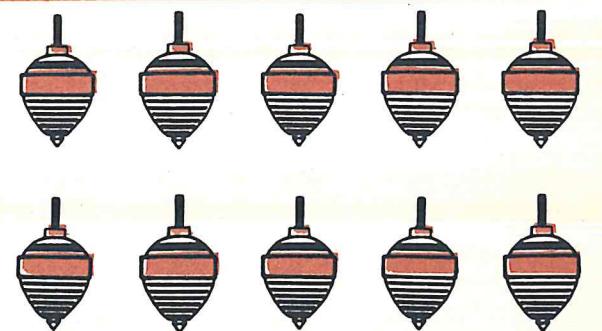
2 threes are 6.

Half of 6 is ✓.



2 sixes are 12.

Half of 12 is ✓.



2 fives are 10.

Half of 10 is ✓.

2 fours are 8.

8 is ✓ fours.

Half of 8 is ✓.

2 twos are 4.

4 is ✓ twos.

Half of 4 is ✓.

2 threes are 6.

6 is ✓ threes.

Half of 6 is ✓.

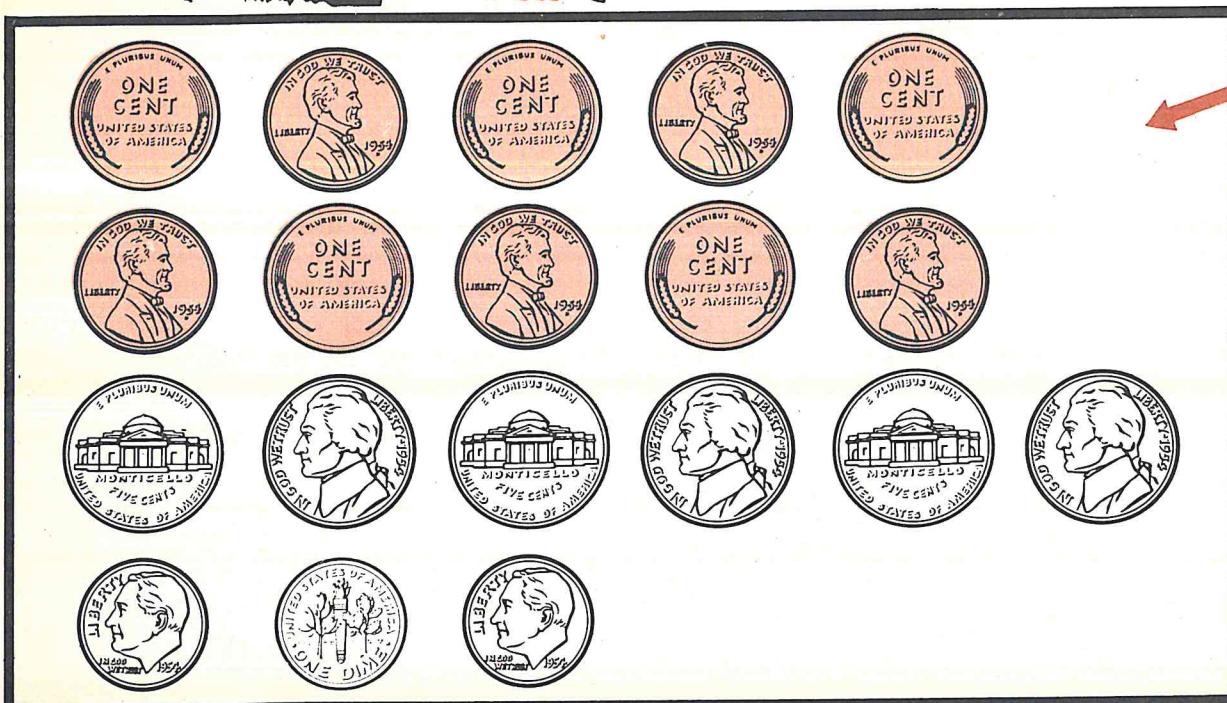
Readiness for the multiplication concept and the related concept of half of a group. Show children that finding 2 twos is like adding  $2 + 2$ . To find half of the total group, the children cover one of the two equal groups.

like adding  $2 + 2$ . To find half of the total group, the children cover one of the two equal groups.

	24	X6	38	61	14
	70	80	50	30	05
	<del>178</del>	318	127	<del>781</del>	287
	025	502	250	<del>205</del>	520
	349	\$ <del>3.49</del>	\$3.94	\$ <del>4.93</del>	\$4.93
	79			49	
	105			<del>1002</del> 130	
	<del>12</del> <del>12</del>			<del>12</del> 15 \$2.50	
	twenty-four			one hundred fifteen	
	two hundred			three dollars	

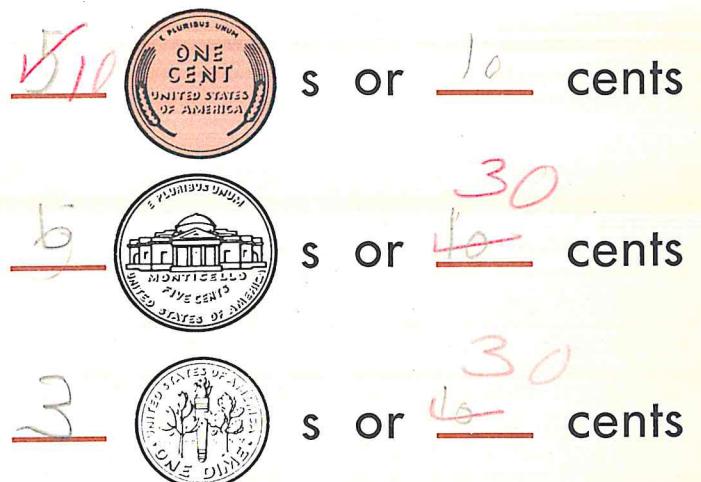


Jane wants to buy the .  
It costs 10 cents.



Look at Jane's money.

Jane has:



Count all the money. Jane has 10 cents in all.

Has Jane all the money she needs to buy the ? Yes  No 

Jane needs 75 cents in all. Which of these does she need?



Counting money in a social situation. If possible, provide the real coins which duplicate those in the lesson so that children can have firsthand experience in dealing with money and counting the money needed to make a purchase.

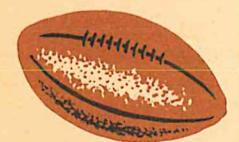
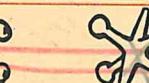
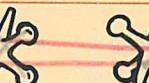
can have firsthand experience in dealing with money and counting the money needed to make a purchase.



D



0 0 0 0



Bob had 3 cents. His mother gives him 2 cents. How many cents has he in all?

5 cents



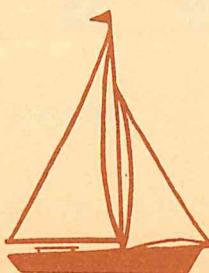
In a room are 4 seats in a row. How many seats are there in 2 rows?

8 seats



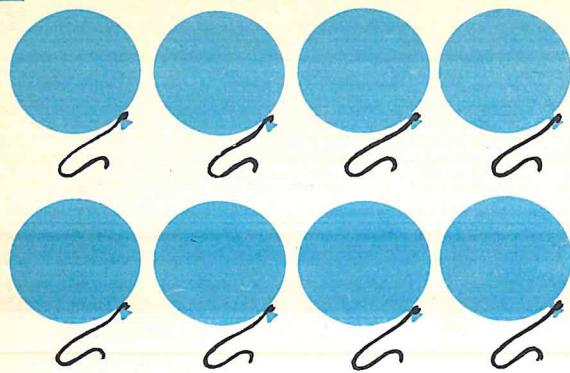
John had 5 kittens. He gave 2 kittens to Ann. How many kittens did he have left?

3 kittens



Mother has 6 apples for 3 children. How many apples has she for each child?

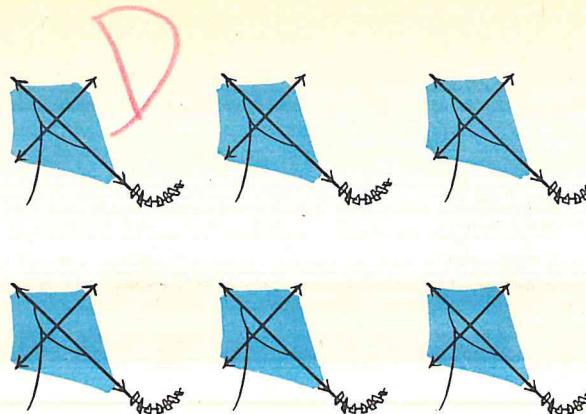
2 apples



2 fours are 8.

8 is ✓ fours.

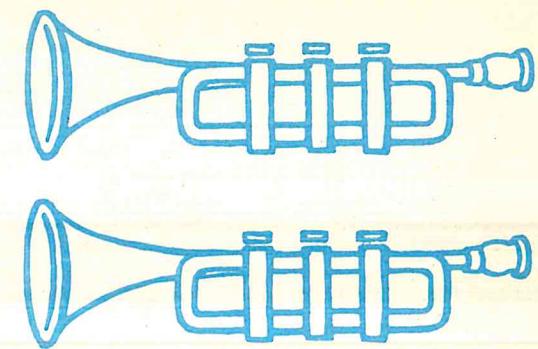
Half of 8 is ✓.



2 threes are 6.

6 is ✓ threes.

Half of 6 is ✓.



2 ones are 2.

2 is ✓ ones.

Half of 2 is ✓.



2 twos are 4.

4 is ✓ twos.

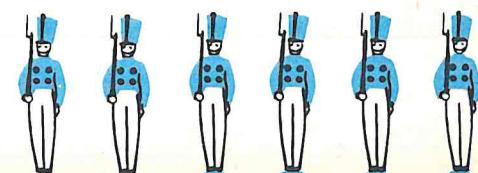
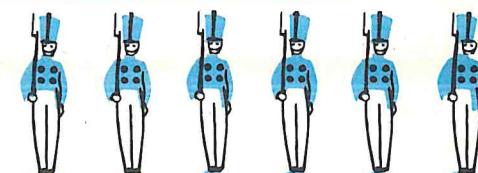
Half of 4 is ✓.



2 fives are ✓.

10 is ✓ fives.

Half of 10 is ✓.



2 sixes are 12.

12 is ✓ sixes.

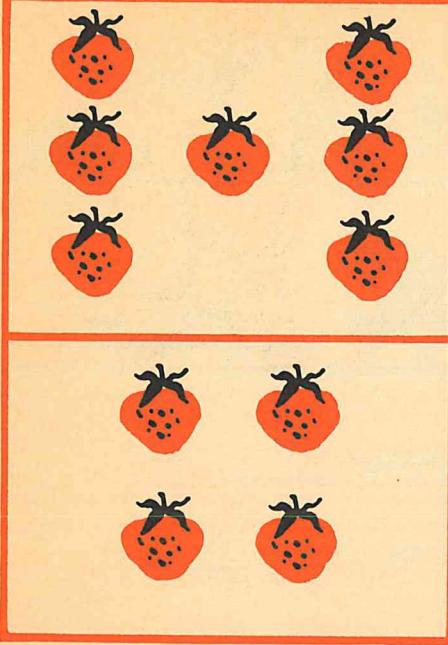
Half of 12 is ✓.

Readiness for the multiplication concept, continued. Show children that finding 2 fours is like adding  $4 + 4$ . To find half of a total number, cover one of the two equal groups. Practice

in class with other objects. At their seats the children will fill in the missing numbers.

dramatize the story in each picture; make a disk picture for each story; then write the missing answers.

Visualizing related facts  $7 + 4 = 11$ ,  $4 + 7 = 11$ ,  $11 - 7 = 4$ , and  $11 - 4 = 7$ . Children talk about each grouped picture;

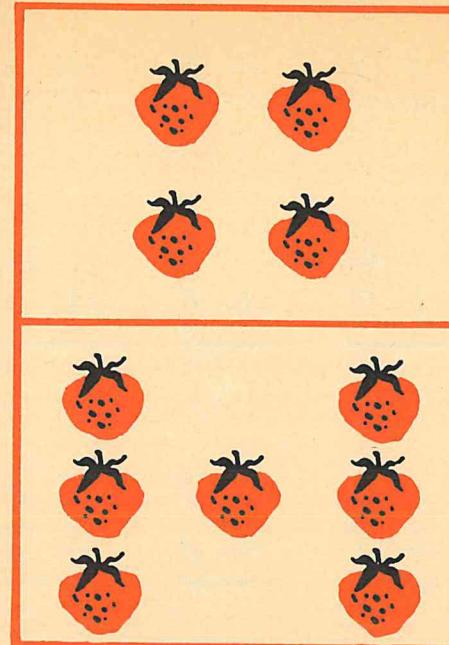


A -

$$11 \text{ is } 7 + 4$$

$$\begin{array}{r}
 7 \\
+ 4 \\
\hline
11
\end{array}
\quad
\begin{array}{r}
8 \\
+ 3 \\
\hline
11
\end{array}
\quad
\begin{array}{r}
7 \\
+ 1 \\
\hline
8
\end{array}
\quad
\begin{array}{r}
7 \\
+ 4 \\
\hline
11
\end{array}$$
  

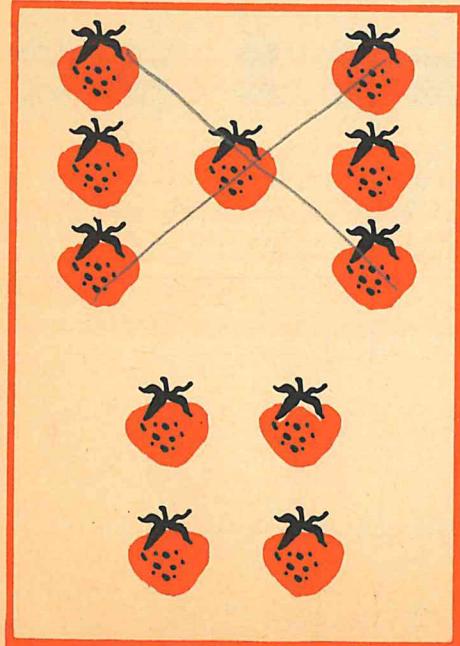
$$\begin{array}{r}
1 \\
+ 7 \\
\hline
8
\end{array}
\quad
\begin{array}{r}
7 \\
+ 4 \\
\hline
11
\end{array}
\quad
\begin{array}{r}
3 \\
+ 8 \\
\hline
9
\end{array}
\quad
\begin{array}{r}
7 \\
+ 4 \\
\hline
11
\end{array}$$



$$11 \text{ is } 4 + 7$$

$$\begin{array}{r}
4 \\
+ 7 \\
\hline
11
\end{array}
\quad
\begin{array}{r}
6 \\
+ 2 \\
\hline
8
\end{array}
\quad
\begin{array}{r}
4 \\
+ 7 \\
\hline
9
\end{array}
\quad
\begin{array}{r}
2 \\
+ 6 \\
\hline
7
\end{array}$$
  

$$\begin{array}{r}
7 \\
+ 4 \\
\hline
11
\end{array}
\quad
\begin{array}{r}
4 \\
+ 7 \\
\hline
11
\end{array}
\quad
\begin{array}{r}
5 \\
+ 5 \\
\hline
10
\end{array}
\quad
\begin{array}{r}
4 \\
+ 7 \\
\hline
11
\end{array}$$



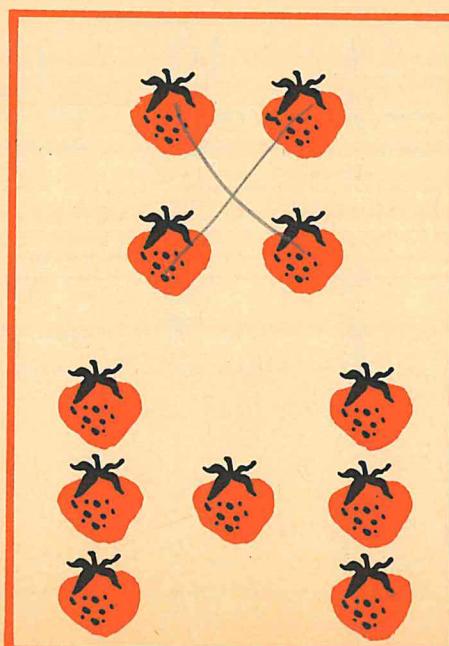
Strawberries in all 11

Cross out 7 strawberries.

Strawberries left 4

$$\begin{array}{r}
11 \\
- 7 \\
\hline
4
\end{array}
\quad
\begin{array}{r}
11 \\
- 8 \\
\hline
3
\end{array}
\quad
\begin{array}{r}
8 \\
- 7 \\
\hline
1
\end{array}
\quad
\begin{array}{r}
11 \\
- 7 \\
\hline
4
\end{array}$$
  

$$\begin{array}{r}
11 \\
- 1 \\
\hline
10
\end{array}
\quad
\begin{array}{r}
11 \\
- 7 \\
\hline
4
\end{array}
\quad
\begin{array}{r}
11 \\
- 3 \\
\hline
8
\end{array}
\quad
\begin{array}{r}
11 \\
- 7 \\
\hline
4
\end{array}$$



Strawberries in all 11

Cross out 4 strawberries.

Strawberries left 7

$$\begin{array}{r}
11 \\
- 4 \\
\hline
7
\end{array}
\quad
\begin{array}{r}
8 \\
- 6 \\
\hline
2
\end{array}
\quad
\begin{array}{r}
11 \\
- 4 \\
\hline
7
\end{array}
\quad
\begin{array}{r}
8 \\
- 2 \\
\hline
6
\end{array}$$
  

$$\begin{array}{r}
11 \\
- 7 \\
\hline
4
\end{array}
\quad
\begin{array}{r}
11 \\
- 4 \\
\hline
7
\end{array}
\quad
\begin{array}{r}
10 \\
- 5 \\
\hline
5
\end{array}
\quad
\begin{array}{r}
11 \\
- 4 \\
\hline
7
\end{array}$$

150

$$\begin{array}{r} 7 \\ + 4 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 7 \\ + 4 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 8 \\ + 2 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 7 \\ + 4 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 2 \\ + 8 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 7 \\ + 4 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 4 \\ + 7 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 3 \\ + 6 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 4 \\ + 7 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 6 \\ + 3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 5 \\ + 5 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 4 \\ + 7 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 7 \\ + 4 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 4 \\ + 7 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 4 \\ + 4 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 4 \\ + 7 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 7 \\ + 4 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 4 \\ + 7 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 11 \\ - 7 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 11 \\ - 7 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 10 \\ - 8 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 11 \\ - 7 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 10 \\ - 2 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 11 \\ - 7 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 11 \\ - 4 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 9 \\ - 3 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 11 \\ - 4 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 9 \\ - 6 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 10 \\ - 5 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 11 \\ - 4 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 11 \\ - 7 \\ \hline 4 \end{array}$$

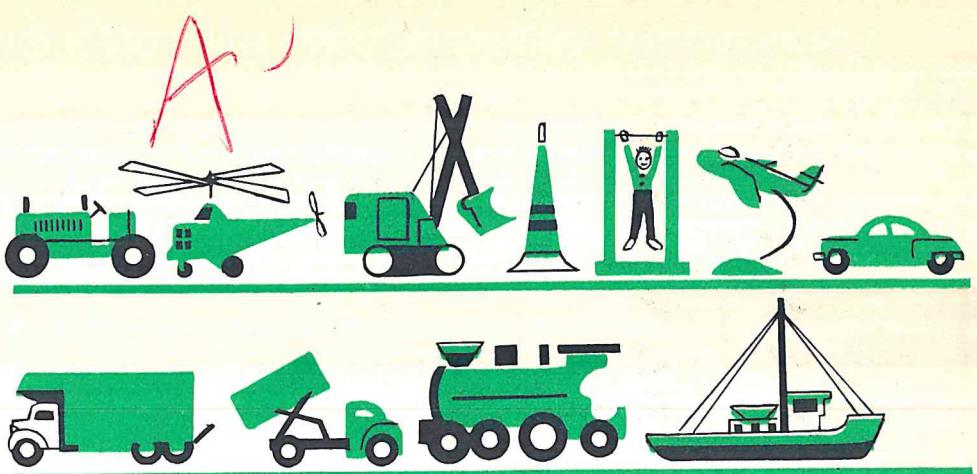
$$\begin{array}{r} 11 \\ - 4 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 8 \\ - 4 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 11 \\ - 4 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 11 \\ - 7 \\ \hline 4 \end{array}$$

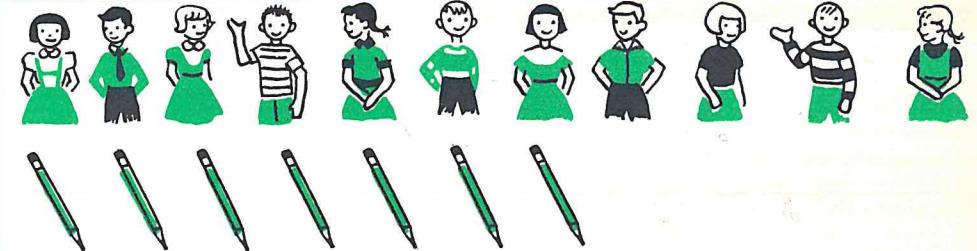
$$\begin{array}{r} 11 \\ - 4 \\ \hline 7 \end{array}$$



Toys in the top row 7

Toys in the bottom row 4

Toys in all 11



How many children in all? 11

How many /'s in all? 11

Each child should have a /.

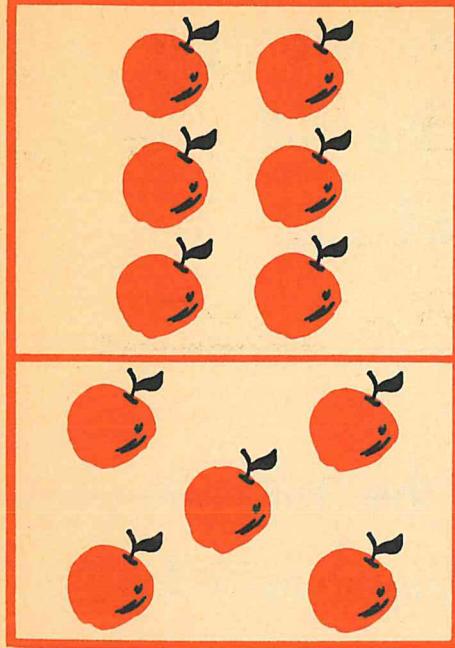
How many more /'s are needed? 4

Practice on the four new related number facts and use of the new facts in story problems. Children will use the pictures to supply the missing numbers in the problems.

supply the missing numbers in the problems.

Visualizing related facts  $6 + 5 = 11$ ,  $5 + 6 = 11$ ,  $11 - 6 = 5$ , and  $11 - 5 = 6$ . Children talk about each grouped picture;

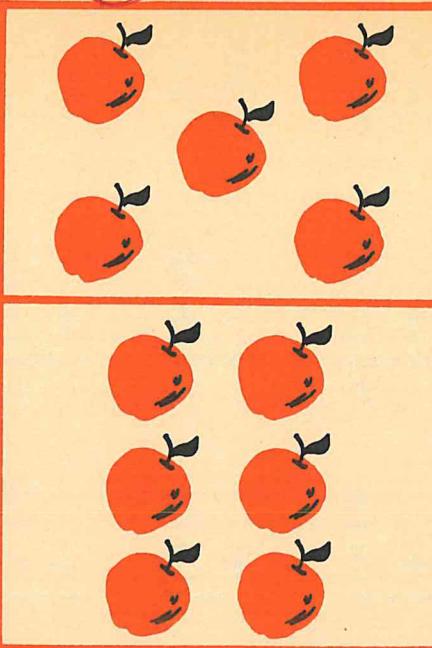
dramatize the story in each picture; make a disk picture for each story; then write the missing answers.



$$11 \text{ is } \underline{6} + \underline{5}$$

$$\begin{array}{r} 6 \\ + 5 \\ \hline 11 \end{array} \quad \begin{array}{r} 5 \\ + 3 \\ \hline 8 \end{array} \quad \begin{array}{r} 3 \\ + 5 \\ \hline \cancel{10} \end{array} \quad \begin{array}{r} 6 \\ + 5 \\ \hline 11 \end{array}$$

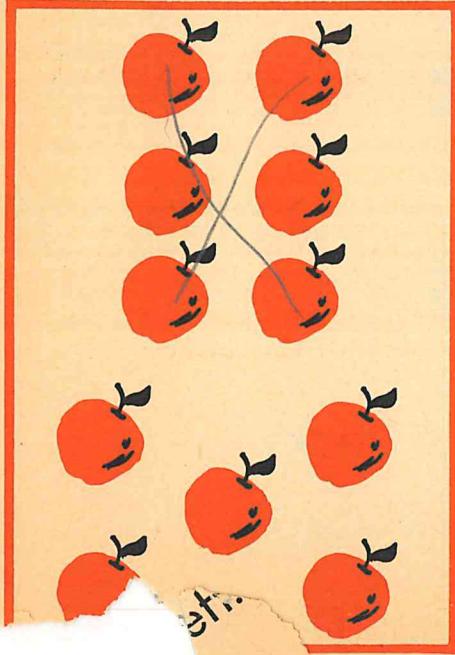
$$\begin{array}{r} 7 \\ + 2 \\ \hline 9 \end{array} \quad \begin{array}{r} 6 \\ + 5 \\ \hline 11 \end{array} \quad \begin{array}{r} 2 \\ + 7 \\ \hline \cancel{9} \end{array} \quad \begin{array}{r} 6 \\ + 5 \\ \hline 11 \end{array}$$



$$11 \text{ is } \underline{5} + \underline{6}$$

$$\begin{array}{r} 5 \\ + 6 \\ \hline 11 \end{array} \quad \begin{array}{r} 3 \\ + 6 \\ \hline \cancel{9} \end{array} \quad \begin{array}{r} 5 \\ + 6 \\ \hline 11 \end{array} \quad \begin{array}{r} 6 \\ + 3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 7 \\ + 1 \\ \hline 8 \end{array} \quad \begin{array}{r} 5 \\ + 6 \\ \hline 11 \end{array} \quad \begin{array}{r} 1 \\ + 7 \\ \hline 8 \end{array} \quad \begin{array}{r} 5 \\ + 6 \\ \hline 11 \end{array}$$



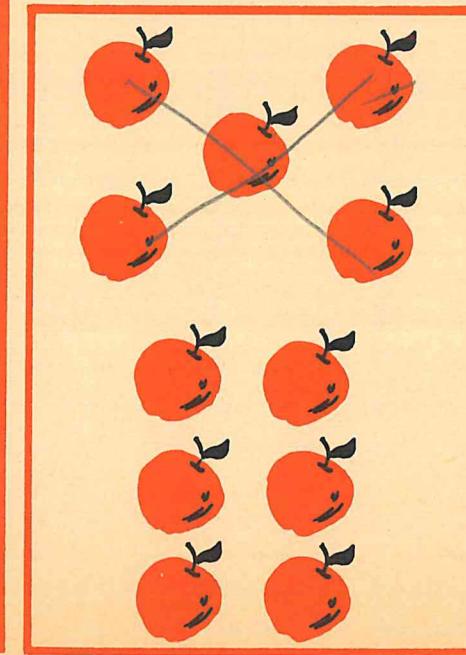
Apples in all 11

Cross out 6.

Apples left 5

$$\begin{array}{r} 11 \\ - 6 \\ \hline 5 \end{array} \quad \begin{array}{r} 8 \\ - 5 \\ \hline \cancel{3} \end{array} \quad \begin{array}{r} 8 \\ - 3 \\ \hline 5 \end{array} \quad \begin{array}{r} 11 \\ - 6 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 9 \\ - 7 \\ \hline 2 \end{array} \quad \begin{array}{r} 11 \\ - 6 \\ \hline 5 \end{array} \quad \begin{array}{r} 9 \\ - 2 \\ \hline 7 \end{array} \quad \begin{array}{r} 11 \\ - 6 \\ \hline 5 \end{array}$$



Apples in all 11

Cross out 5.

Apples left 6

$$\begin{array}{r} 11 \\ - 5 \\ \hline 6 \end{array} \quad \begin{array}{r} 9 \\ - 3 \\ \hline 6 \end{array} \quad \begin{array}{r} 11 \\ - 5 \\ \hline 6 \end{array} \quad \begin{array}{r} 9 \\ - 5 \\ \hline \cancel{4} \end{array}$$

$$\begin{array}{r} 8 \\ - 7 \\ \hline \cancel{1} \end{array} \quad \begin{array}{r} 11 \\ - 5 \\ \hline 6 \end{array} \quad \begin{array}{r} 8 \\ - 1 \\ \hline 7 \end{array} \quad \begin{array}{r} 11 \\ - 5 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 6 \\ + 5 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 6 \\ + 5 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 3 \\ + 7 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 6 \\ + 5 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 7 \\ + 3 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 6 \\ + 5 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 5 \\ + 6 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 6 \\ + 2 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 5 \\ + 6 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 2 \\ + 6 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 5 \\ + 6 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 5 \\ + 6 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 6 \\ + 5 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 4 \\ + 4 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 5 \\ + 6 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 6 \\ + 5 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 11 \\ - 6 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 11 \\ - 6 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 10 \\ - 3 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 11 \\ - 6 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 10 \\ - 7 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 11 \\ - 5 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 8 \\ - 6 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 11 \\ - 5 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 8 \\ - 2 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 11 \\ - 5 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 11 \\ - 5 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 11 \\ - 6 \\ \hline 5 \end{array}$$

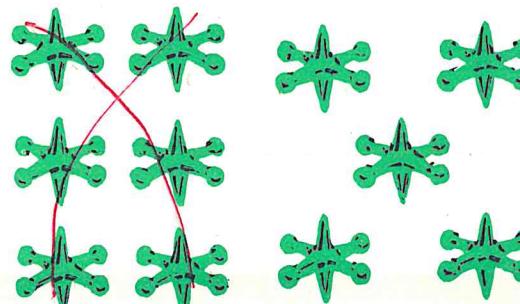
$$\begin{array}{r} 8 \\ - 4 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 11 \\ - 5 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 11 \\ - 6 \\ \hline 5 \end{array}$$



C

 s in the short pile 10 s in the tall pile 5 s in all 11 s in the tall pile 5 s in the short pile 6 s in all 1111 jacks in all

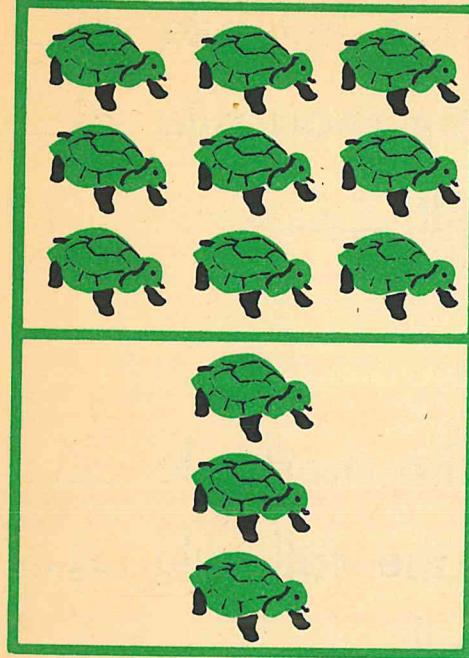
Mary picks up 6 jacks.

Cross out these 6 jacks.

You now see 5 jacks left

Visualizing related facts  $9 + 3 = 12$ ,  $3 + 9 = 12$ ,  $12 - 9 = 3$ , and  $12 - 3 = 9$ . Children talk about each grouped picture; then write the missing answers.

dramatize the story in each picture; make a disk picture for each story; then write the missing answers.

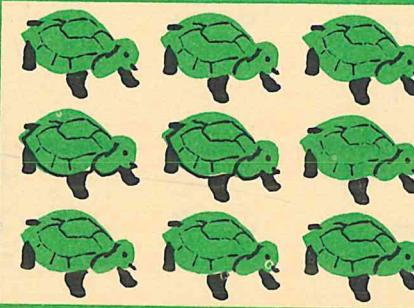


$$12 \text{ is } \underline{9} + \underline{3}$$

$$\begin{array}{r} 9 \\ + 3 \\ \hline 12 \end{array} \quad \begin{array}{r} 4 \\ + 5 \\ \hline 9 \end{array} \quad \begin{array}{r} 9 \\ + 3 \\ \hline 12 \end{array} \quad \begin{array}{r} 5 \\ + 4 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 8 \\ + 1 \\ \hline 9 \end{array} \quad \begin{array}{r} 9 \\ + 3 \\ \hline 12 \end{array} \quad \begin{array}{r} 1 \\ + 8 \\ \hline 9 \end{array} \quad \begin{array}{r} 9 \\ + 3 \\ \hline 12 \end{array}$$

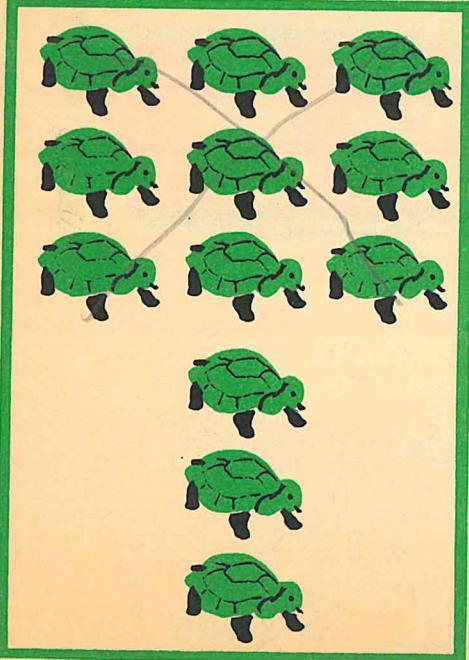
B



$$12 \text{ is } \underline{3} + \underline{9}$$

$$\begin{array}{r} 3 \\ + 9 \\ \hline 12 \end{array} \quad \begin{array}{r} 4 \\ + 6 \\ \hline 10 \end{array} \quad \begin{array}{r} 6 \\ + 4 \\ \hline 10 \end{array} \quad \begin{array}{r} 3 \\ + 9 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 3 \\ + 7 \\ \hline 10 \end{array} \quad \begin{array}{r} 3 \\ + 9 \\ \hline 12 \end{array} \quad \begin{array}{r} 7 \\ + 3 \\ \hline 10 \end{array} \quad \begin{array}{r} 3 \\ + 9 \\ \hline 12 \end{array}$$



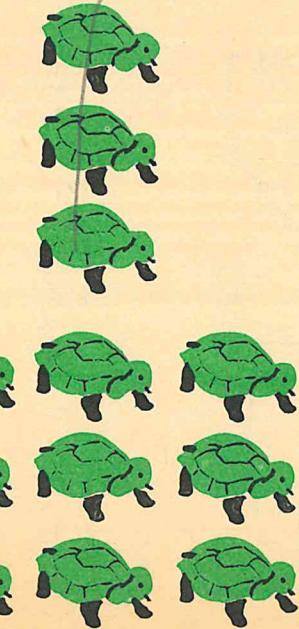
s in all 12

Cross out 9 s.

$$\begin{array}{r} 12 \\ - 9 \\ \hline 3 \end{array} \quad \begin{array}{r} 9 \\ - 4 \\ \hline 5 \end{array} \quad \begin{array}{r} 12 \\ - 9 \\ \hline 3 \end{array} \quad \begin{array}{r} 9 \\ - 5 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 9 \\ - 8 \\ \hline 1 \end{array} \quad \begin{array}{r} 12 \\ - 9 \\ \hline 3 \end{array} \quad \begin{array}{r} 9 \\ - 1 \\ \hline 8 \end{array} \quad \begin{array}{r} 12 \\ - 9 \\ \hline 3 \end{array}$$

3 3 8 3



s in all 12

Cross out 3 s.

$$\begin{array}{r} 12 \\ - 3 \\ \hline 9 \end{array} \quad \begin{array}{r} 10 \\ - 4 \\ \hline 6 \end{array} \quad \begin{array}{r} 10 \\ - 6 \\ \hline 4 \end{array} \quad \begin{array}{r} 12 \\ - 3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 10 \\ - 3 \\ \hline 7 \end{array} \quad \begin{array}{r} 12 \\ - 3 \\ \hline 9 \end{array} \quad \begin{array}{r} 10 \\ - 7 \\ \hline 3 \end{array} \quad \begin{array}{r} 12 \\ - 3 \\ \hline 9 \end{array}$$

7 9 4 9

$$\begin{array}{r} 9 \\ + 3 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 9 \\ + 3 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 2 \\ + 8 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 7 \\ + 4 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 5 \\ + 3 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 9 \\ + 3 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 3 \\ + 9 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 3 \\ + 9 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 4 \\ + 7 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 3 \\ + 5 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 3 \\ + 9 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 8 \\ + 2 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 9 \\ + 3 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 3 \\ + 9 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 8 \\ + 3 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 3 \\ + 9 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 3 \\ + 8 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 9 \\ + 3 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 12 \\ - 9 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 12 \\ - 9 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 10 \\ - 2 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 11 \\ - 7 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 8 \\ - 5 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 12 \\ - 9 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 12 \\ - 3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 12 \\ - 3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 11 \\ - 4 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 8 \\ - 3 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 12 \\ - 3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 10 \\ - 8 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 12 \\ - 9 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 12 \\ - 3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 11 \\ - 8 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 12 \\ - 3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 11 \\ - 3 \\ \hline 9 \end{array}$$

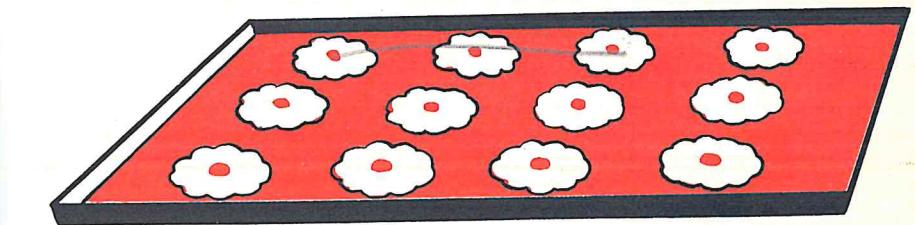
$$\begin{array}{r} 12 \\ - 9 \\ \hline 3 \end{array}$$



Books in the tall pile 12

Books in the short pile 3

Books in all 15



12 o's in all

Mary takes away 3 o's.

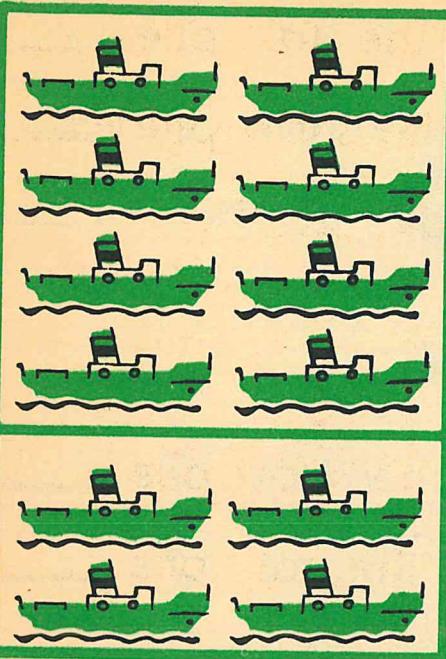
Cross out these 3 o's.

You now see 9 o's left.

Practice on the four new related number facts and use of the new facts in story problems. Children use the pictures to support the missing numbers in the problems.

ply the missing numbers in the problems.

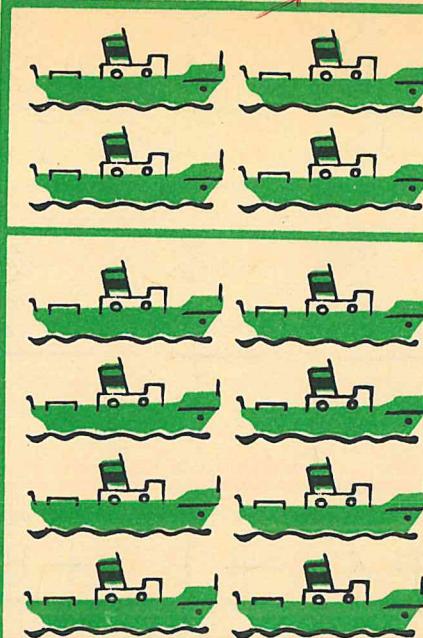
B



$$12 \text{ is } \underline{8} + \underline{4}$$

$$\begin{array}{r} 8 \\ + 4 \\ \hline 12 \end{array} \quad \begin{array}{r} 8 \\ + 2 \\ \hline 10 \end{array} \quad \begin{array}{r} 2 \\ + 8 \\ \hline 10 \end{array} \quad \begin{array}{r} 8 \\ + 4 \\ \hline 12 \end{array}$$

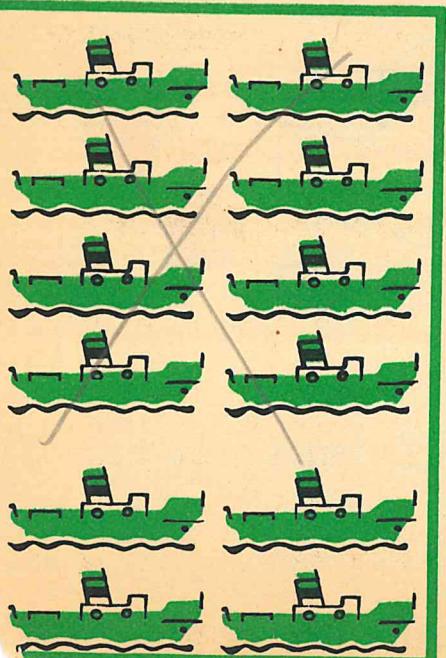
$$\begin{array}{r} 1 \\ + 9 \\ \hline 10 \end{array} \quad \begin{array}{r} 8 \\ + 4 \\ \hline 12 \end{array} \quad \begin{array}{r} 9 \\ + 1 \\ \hline 10 \end{array} \quad \begin{array}{r} 8 \\ + 4 \\ \hline 12 \end{array}$$



$$12 \text{ is } \underline{4} + \underline{8}$$

$$\begin{array}{r} 4 \\ + 8 \\ \hline 12 \end{array} \quad \begin{array}{r} 6 \\ + 2 \\ \hline 8 \end{array} \quad \begin{array}{r} 4 \\ + 8 \\ \hline 12 \end{array} \quad \begin{array}{r} 2 \\ + 6 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 7 \\ + 1 \\ \hline 8 \end{array} \quad \begin{array}{r} 4 \\ + 8 \\ \hline 12 \end{array} \quad \begin{array}{r} 1 \\ + 7 \\ \hline 8 \end{array} \quad \begin{array}{r} 4 \\ + 8 \\ \hline 12 \end{array}$$



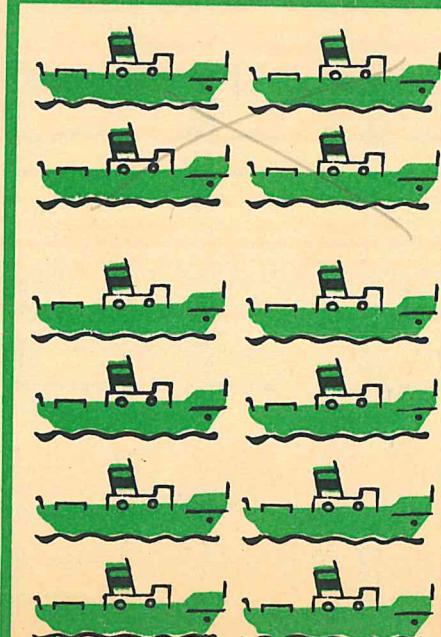
Boats in all 12

Cross out 8.

Boats left 4

$$\begin{array}{r} 12 \\ - 8 \\ \hline 4 \end{array} \quad \begin{array}{r} 10 \\ - 8 \\ \hline 2 \end{array} \quad \begin{array}{r} 10 \\ - 2 \\ \hline 8 \end{array} \quad \begin{array}{r} 12 \\ - 8 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 10 \\ - 1 \\ \hline 9 \end{array} \quad \begin{array}{r} 12 \\ - 8 \\ \hline 4 \end{array} \quad \begin{array}{r} 10 \\ - 9 \\ \hline 1 \end{array} \quad \begin{array}{r} 12 \\ - 8 \\ \hline 4 \end{array}$$



Boats in all 12

Cross out 4.

Boats left 8

$$\begin{array}{r} 12 \\ - 4 \\ \hline 8 \end{array} \quad \begin{array}{r} 8 \\ - 6 \\ \hline 2 \end{array} \quad \begin{array}{r} 12 \\ - 4 \\ \hline 8 \end{array} \quad \begin{array}{r} 8 \\ - 2 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 8 \\ - 7 \\ \hline 1 \end{array} \quad \begin{array}{r} 12 \\ - 4 \\ \hline 8 \end{array} \quad \begin{array}{r} 8 \\ - 1 \\ \hline 7 \end{array} \quad \begin{array}{r} 12 \\ - 4 \\ \hline 8 \end{array}$$

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$$\begin{array}{r} 8 \\ + 4 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 8 \\ + 4 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 9 \\ + 2 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 8 \\ + 1 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 8 \\ + 4 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 4 \\ + 5 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 4 \\ + 8 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 4 \\ + 8 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 1 \\ + 8 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 2 \\ + 9 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 5 \\ + 4 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 4 \\ + 8 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 8 \\ + 4 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 4 \\ + 8 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 1 \\ + 9 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 8 \\ + 4 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 9 \\ + 1 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 4 \\ + 8 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 12 \\ - 8 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 12 \\ - 8 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 11 \\ - 9 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 9 \\ - 8 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 12 \\ - 8 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 9 \\ - 4 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 12 \\ - 4 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 12 \\ - 4 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 9 \\ - 1 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 11 \\ - 2 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 9 \\ - 5 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 12 \\ - 4 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 12 \\ - 8 \\ \hline 4 \end{array}$$

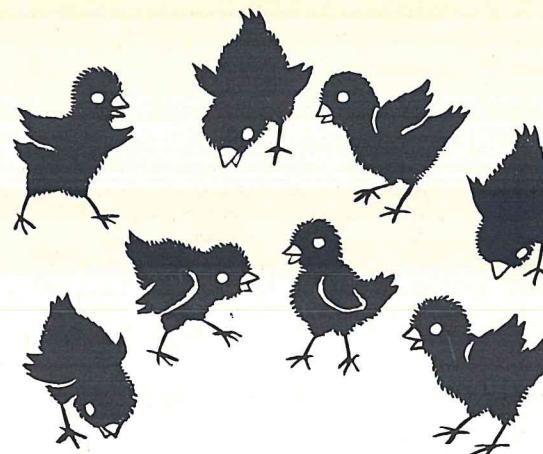
$$\begin{array}{r} 12 \\ - 4 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 10 \\ - 1 \\ \hline 9 \end{array}$$

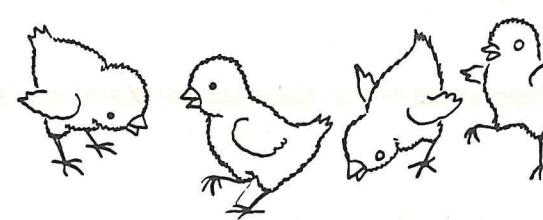
$$\begin{array}{r} 12 \\ - 8 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 10 \\ - 9 \\ \hline 1 \end{array}$$

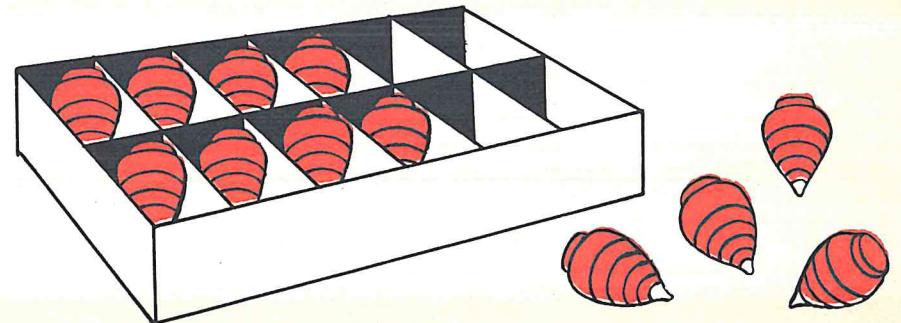
$$\begin{array}{r} 12 \\ - 4 \\ \hline 8 \end{array}$$



Black s  $\frac{8}{12}$   
White s  $\frac{4}{12}$   
 $s$  in all  $\underline{\hspace{2cm}}$



White s  $\frac{4}{12}$   
Black s  $\frac{8}{12}$   
 $s$  in all  $\underline{\hspace{2cm}}$



This box holds 12 tops in all.

Jack took out 4 tops.

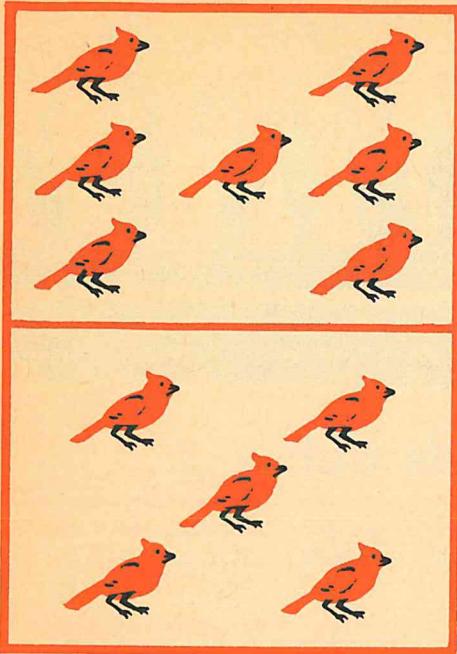
8 tops are left in the box.

Practice on the four new related number facts and use of the new facts in story problems. Children will use the pictures to supply the missing numbers in the problems.

supply the missing numbers in the problems.

dramatize the story in each picture; make a disk picture for each story; then write the missing answers.

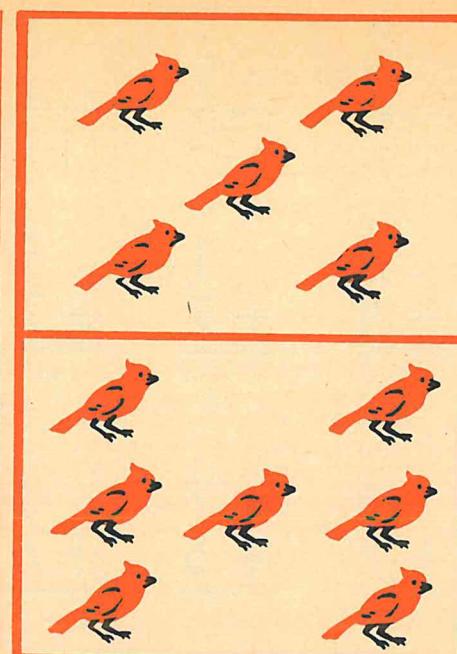
Visualizing related facts  $7 + 5 = 12$ ,  $5 + 7 = 12$ ,  $12 - 7 = 5$ , and  $12 - 5 = 7$ . Children talk about each grouped picture;



$$12 \text{ is } \underline{7} + \underline{5}$$

$$\begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array} \quad \begin{array}{r} 4 \\ + 6 \\ \hline 10 \end{array} \quad \begin{array}{r} 6 \\ + 4 \\ \hline 10 \end{array} \quad \begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 4 \\ + 5 \\ \hline 8 \end{array} \quad \begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array} \quad \begin{array}{r} 5 \\ + 4 \\ \hline 8 \end{array} \quad \begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$$



$$12 \text{ is } \underline{5} + \underline{7}$$

$$\begin{array}{r} 5 \\ + 7 \\ \hline 12 \end{array} \quad \begin{array}{r} 3 \\ + 7 \\ \hline 10 \end{array} \quad \begin{array}{r} 5 \\ + 7 \\ \hline 12 \end{array} \quad \begin{array}{r} 7 \\ + 3 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 6 \\ + 3 \\ \hline 10 \end{array} \quad \begin{array}{r} 5 \\ + 7 \\ \hline 12 \end{array} \quad \begin{array}{r} 3 \\ + 6 \\ \hline 10 \end{array} \quad \begin{array}{r} 5 \\ + 7 \\ \hline 12 \end{array}$$



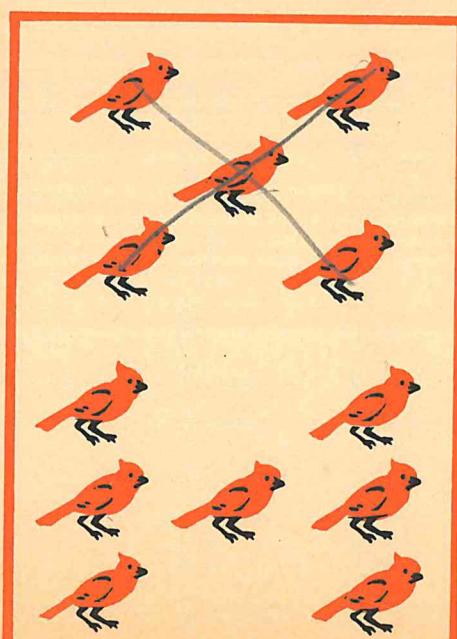
Birds in all 12

Cross out 7.

Birds left 5

$$\begin{array}{r} 12 \\ - 7 \\ \hline 5 \end{array} \quad \begin{array}{r} 10 \\ - 4 \\ \hline 6 \end{array} \quad \begin{array}{r} 10 \\ - 6 \\ \hline 4 \end{array} \quad \begin{array}{r} 12 \\ - 7 \\ \hline 5 \end{array}$$
  

$$\begin{array}{r} 9 \\ - 4 \\ \hline 5 \end{array} \quad \begin{array}{r} 12 \\ - 7 \\ \hline 5 \end{array} \quad \begin{array}{r} 9 \\ - 5 \\ \hline 4 \end{array} \quad \begin{array}{r} 12 \\ - 7 \\ \hline 5 \end{array}$$



Birds in all 12

Cross out 5.

Birds left 7

$$\begin{array}{r} 12 \\ - 5 \\ \hline 7 \end{array} \quad \begin{array}{r} 10 \\ - 3 \\ \hline 8 \end{array} \quad \begin{array}{r} 12 \\ - 5 \\ \hline 7 \end{array} \quad \begin{array}{r} 10 \\ - 7 \\ \hline 4 \end{array}$$
  

$$\begin{array}{r} 9 \\ - 6 \\ \hline 3 \end{array} \quad \begin{array}{r} 12 \\ - 5 \\ \hline 7 \end{array} \quad \begin{array}{r} 9 \\ - 3 \\ \hline 6 \end{array} \quad \begin{array}{r} 12 \\ - 5 \\ \hline 7 \end{array}$$

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$$\begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 9 \\ + 2 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 2 \\ + 9 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 5 \\ + 7 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 3 \\ + 8 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 5 \\ + 7 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 8 \\ + 3 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 1 \\ + 7 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 5 \\ + 7 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 5 \\ + 7 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 7 \\ + 1 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 5 \\ + 7 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 5 \\ + 6 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 12 \\ - 7 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 12 \\ - 7 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 11 \\ - 9 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 12 \\ - 7 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 11 \\ - 2 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 12 \\ - 7 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 12 \\ - 5 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 11 \\ - 3 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 12 \\ - 5 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 11 \\ - 8 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 8 \\ - 1 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 12 \\ - 5 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 12 \\ - 7 \\ \hline 5 \end{array}$$

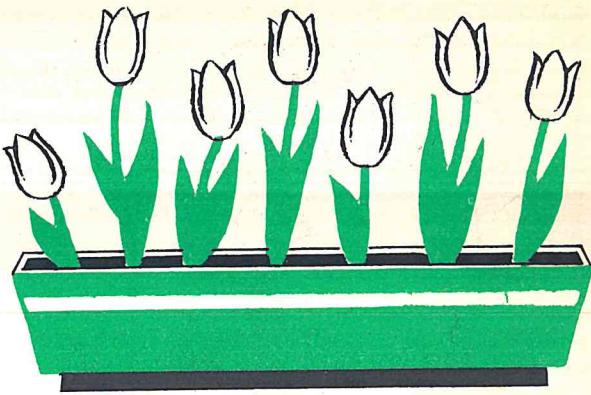
$$\begin{array}{r} 12 \\ - 5 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 8 \\ - 7 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 12 \\ - 5 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 12 \\ - 7 \\ \hline 5 \end{array}$$

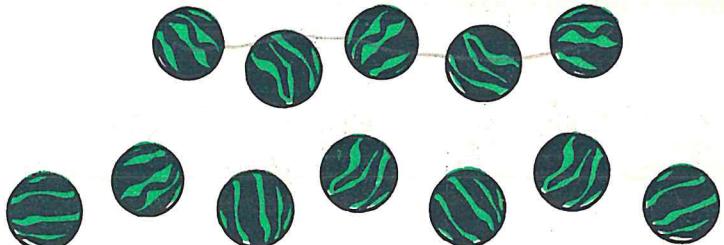
$$\begin{array}{r} 11 \\ - 5 \\ \hline 4 \end{array}$$



Flowers in the little dish 5

Flowers in the big dish 7

Flowers in all 12



Jim had 12 s in all.

He gives Jack 5 s.

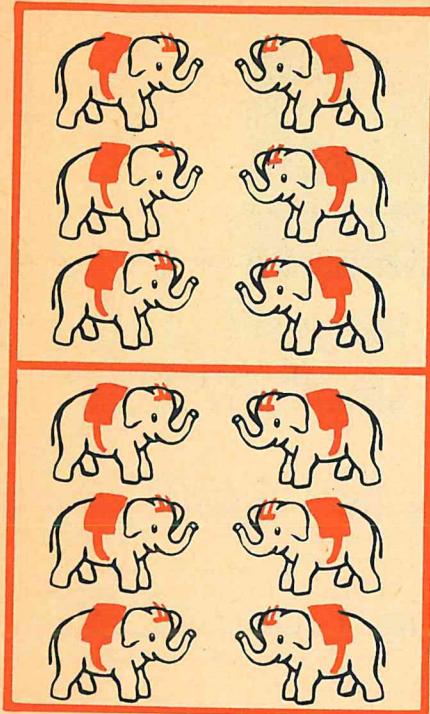
Cross out these 5 s.

Jim will have 7 s left.

Practice on the four new related number facts and use of the new facts in story problems. Children use the pictures to sup-

ply the missing numbers in the problems.

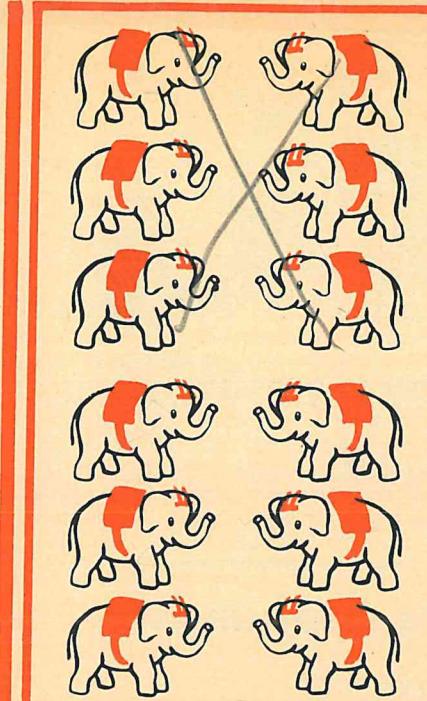
each picture; make a disk picture for each story; then write the missing answers.



$$12 = \underline{6} + \underline{\quad}$$

$$\begin{array}{r} + 6 \\ + 6 \\ \hline 12 \end{array} \quad \begin{array}{r} + 9 \\ + 1 \\ \hline 10 \end{array} \quad \begin{array}{r} + 1 \\ + 9 \\ \hline 10 \end{array} \quad \begin{array}{r} + 6 \\ + 6 \\ \hline 12 \end{array}$$

$$\begin{array}{r} + 8 \\ + 2 \\ \hline 10 \end{array} \quad \begin{array}{r} + 6 \\ + 6 \\ \hline 12 \end{array} \quad \begin{array}{r} + 2 \\ + 8 \\ \hline 10 \end{array} \quad \begin{array}{r} + 6 \\ + 6 \\ \hline 12 \end{array}$$



s in all 12

Cross out 6 s.

s left 4

$$\begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array} \quad \begin{array}{r} 10 \\ - 9 \\ \hline 1 \end{array} \quad \begin{array}{r} 10 \\ - 1 \\ \hline 9 \end{array} \quad \begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 10 \\ - 8 \\ \hline 2 \end{array} \quad \begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array} \quad \begin{array}{r} 10 \\ - 2 \\ \hline 8 \end{array} \quad \begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array}$$

$$\begin{array}{r} + 6 \\ + 6 \\ \hline 12 \end{array} \quad \begin{array}{r} + 6 \\ + 6 \\ \hline 12 \end{array} \quad \begin{array}{r} + 5 \\ + 5 \\ \hline 10 \end{array} \quad \begin{array}{r} + 6 \\ + 5 \\ \hline 11 \end{array} \quad \begin{array}{r} + 6 \\ + 6 \\ \hline 12 \end{array} \quad \begin{array}{r} + 3 \\ + 5 \\ \hline 8 \end{array}$$

$$\begin{array}{r} + 6 \\ + 6 \\ \hline 12 \end{array} \quad \begin{array}{r} + 5 \\ + 6 \\ \hline 11 \end{array} \quad \begin{array}{r} + 7 \\ + 4 \\ \hline 11 \end{array} \quad \begin{array}{r} + 4 \\ + 7 \\ \hline 11 \end{array} \quad \begin{array}{r} + 6 \\ + 5 \\ \hline 10 \end{array} \quad \begin{array}{r} + 6 \\ + 6 \\ \hline 12 \end{array}$$

$$\begin{array}{r} + 3 \\ + 6 \\ \hline 11 \end{array} \quad \begin{array}{r} + 8 \\ + 6 \\ \hline 12 \end{array} \quad \begin{array}{r} + 7 \\ + 3 \\ \hline 11 \end{array} \quad \begin{array}{r} + 4 \\ + 4 \\ \hline 11 \end{array} \quad \begin{array}{r} + 6 \\ + 6 \\ \hline 12 \end{array} \quad \begin{array}{r} + 4 \\ + 7 \\ \hline 11 \end{array}$$

$$\begin{array}{r} - 6 \\ - 6 \\ \hline 6 \end{array} \quad \begin{array}{r} - 6 \\ - 6 \\ \hline 6 \end{array} \quad \begin{array}{r} - 5 \\ - 5 \\ \hline 5 \end{array} \quad \begin{array}{r} - 6 \\ - 6 \\ \hline 3 \end{array} \quad \begin{array}{r} - 6 \\ - 6 \\ \hline 6 \end{array} \quad \begin{array}{r} - 3 \\ - 3 \\ \hline 3 \end{array}$$

$$\begin{array}{r} - 6 \\ - 6 \\ \hline 6 \end{array} \quad \begin{array}{r} - 5 \\ - 5 \\ \hline 4 \end{array} \quad \begin{array}{r} - 7 \\ - 7 \\ \hline 3 \end{array} \quad \begin{array}{r} - 4 \\ - 4 \\ \hline 6 \end{array} \quad \begin{array}{r} - 6 \\ - 6 \\ \hline 3 \end{array} \quad \begin{array}{r} - 6 \\ - 6 \\ \hline 6 \end{array}$$

$$\begin{array}{r} - 3 \\ - 3 \\ \hline 3 \end{array} \quad \begin{array}{r} - 6 \\ - 6 \\ \hline 6 \end{array} \quad \begin{array}{r} - 8 \\ - 8 \\ \hline 2 \end{array} \quad \begin{array}{r} - 7 \\ - 7 \\ \hline 3 \end{array} \quad \begin{array}{r} - 6 \\ - 6 \\ \hline 6 \end{array} \quad \begin{array}{r} - 4 \\ - 4 \\ \hline 6 \end{array}$$

Can you answer?

F

1.



A



B

A. Bob weighs how many pounds? 60

Sally weighs 50 pounds.

Who weighs more? 60

B. Dick's mother wants 5 pounds of meat. How many more pounds does Dick need to buy? 1

2.



Sally and Mary each get the same. How many pieces in all? 4

Each girl gets  $\frac{1}{2}$ .

Sally gets 3. Mary gets 1.

3.

160

182

106

136

163

128

Which number is largest? 182

Which number is smallest? 128

4. How many inches in 1 foot? 12

5. How many pints in 1 quart? 13

6. How many are in 1 dozen? 9

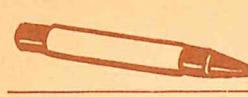
7. 2 fours are 10.  
 Half of 8 is 4.

8. 1 nickel = 5 pennies.

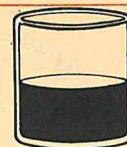
1 dime = 10 nickels.

1 quarter = 1 nickel.

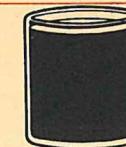
1 dollar = 200 quarters.



**B**



**O**



**+**



**-**



**C**



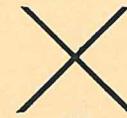
**d**

**t**

**T**



**C**



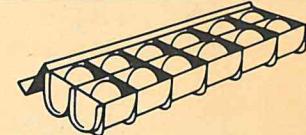
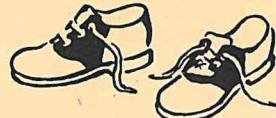
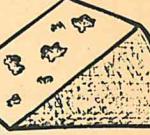
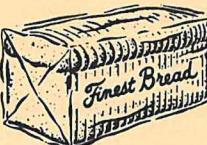
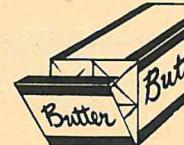
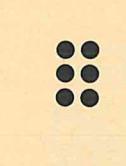
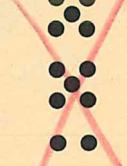
**P.M.**

**PT.**

**OZ.**

**HR.**

**A.M.**



7

days



December

20



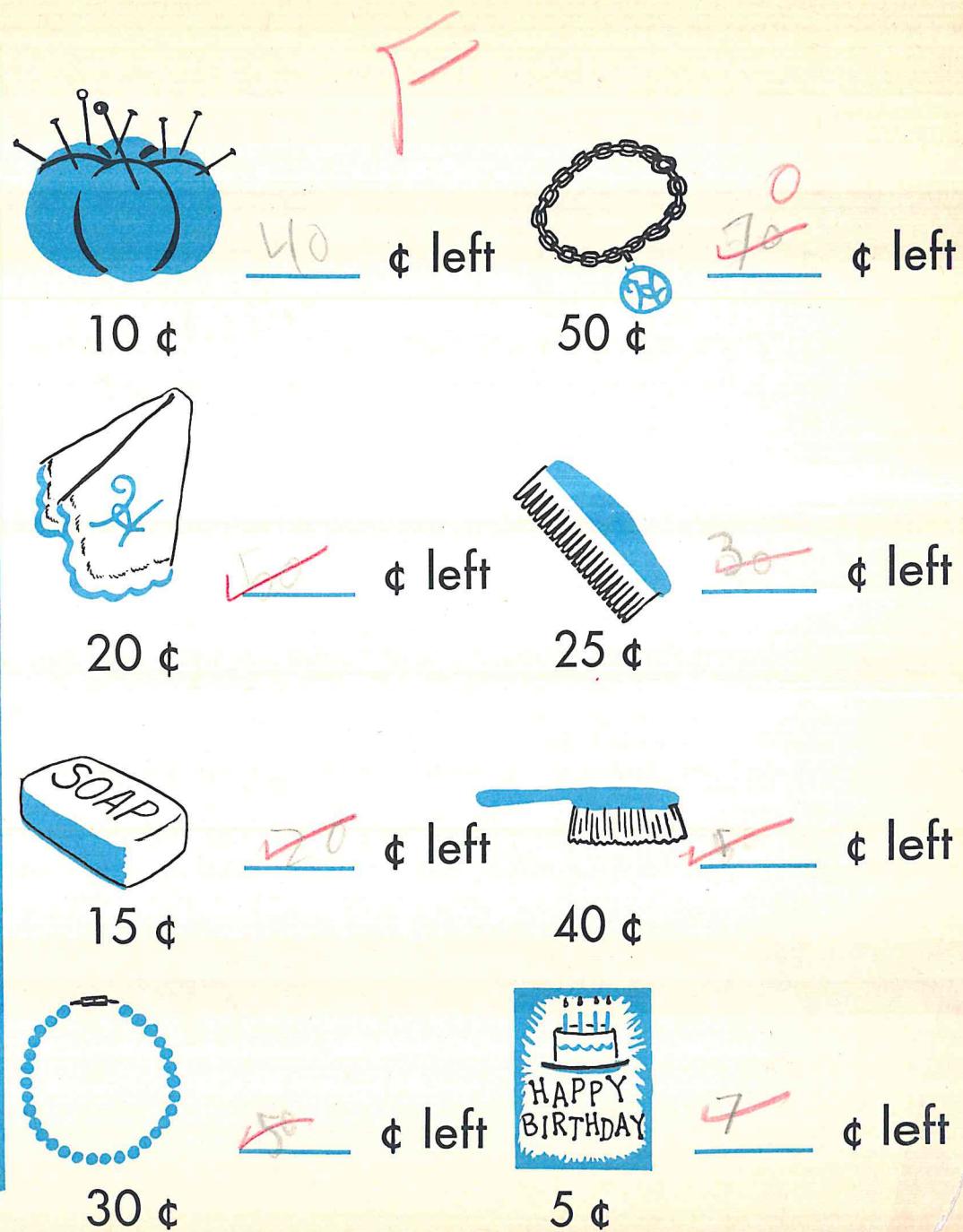
30

minutes



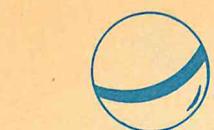
17

inches

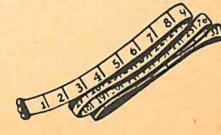
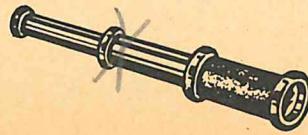
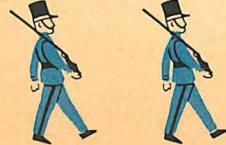
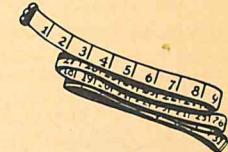
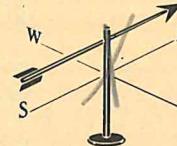
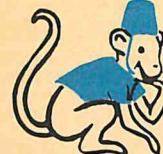
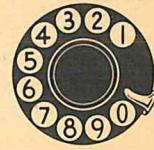
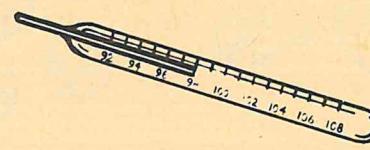
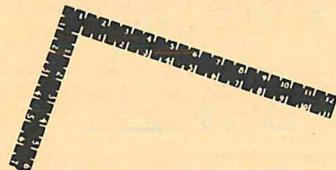
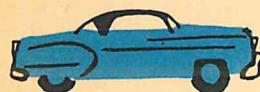
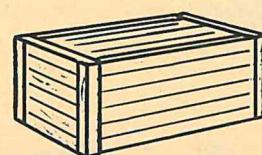
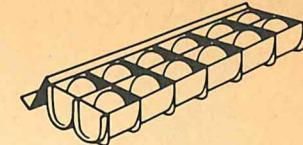
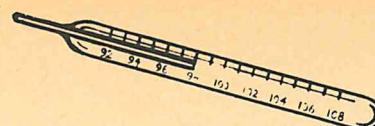


Counting coins in a social situation. First count the children's money. These two children want to buy a birthday gift and a birthday card for their mother. The children in the class will

cover the coins needed to purchase each gift and count the money left.

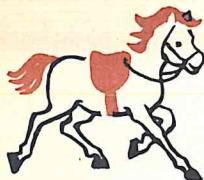


A





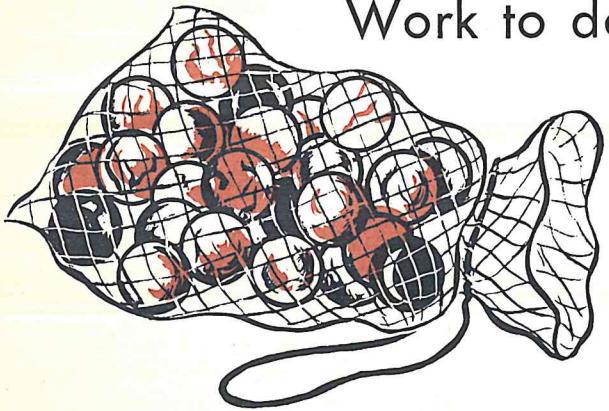
JULY						
S	M	T	W	TH	F	S
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31



C



### Work to do alone



8 os rolled out of the bag.

How many fours? ✓

2 fours are ✓.

Half of 8 is ✓.

Jane is playing jacks.

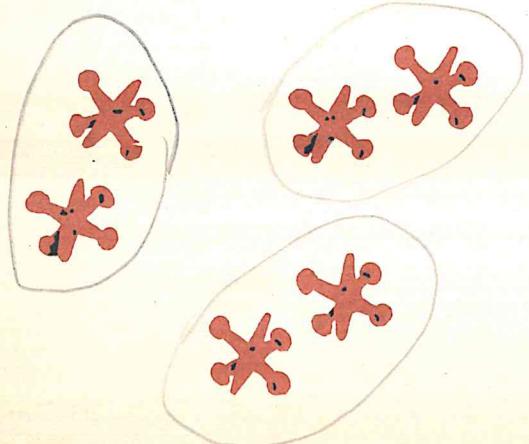
She is playing the twos.

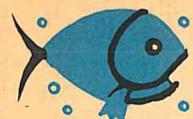
How many jacks in all? b

Put a ring around each two jacks.

How many times must she pick up two? ✓

6 is how many twos? ✓





5 and 3 are 7.

$$\begin{array}{r} 2 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ + 1 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ + 5 \\ \hline \end{array}$$

2 and 4 are 7.



2 and 4 are 7.

$$\begin{array}{r} 2 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ + 1 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ + 3 \\ \hline \end{array}$$



6 take away 3 = 3



5 take away 4 = 1

$$\begin{array}{r} 5 \\ - 2 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ - 4 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ - 4 \\ \hline \end{array}$$

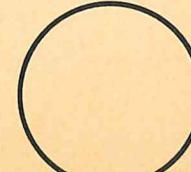
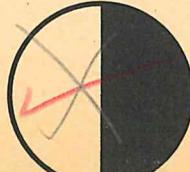
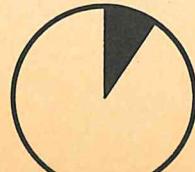
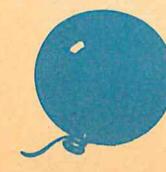
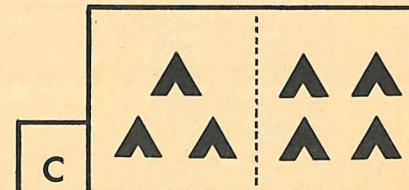
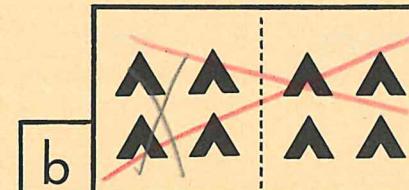
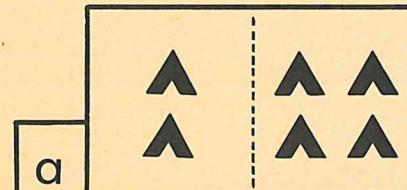
$$\begin{array}{r} 8 \\ - 2 \\ \hline \end{array}$$



2 twos are 4.

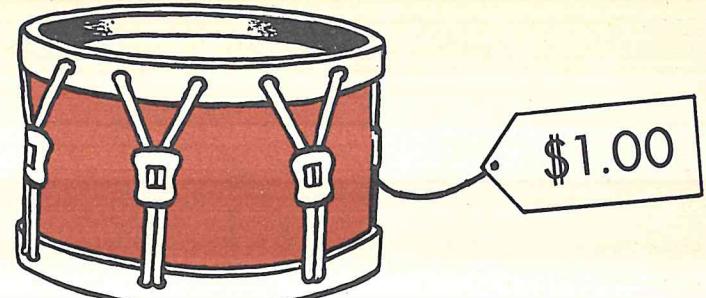


2 fives are 10.



1/4 black

Jack wants to buy the .  
He needs one dollar to buy it.  
Here is a picture of Jack's money.



How many cents has Jack:

in 50



? 10 cents

in 5



s ? 10 cents

in 10



s ? 10 cents

in 1



s ? 10 cents

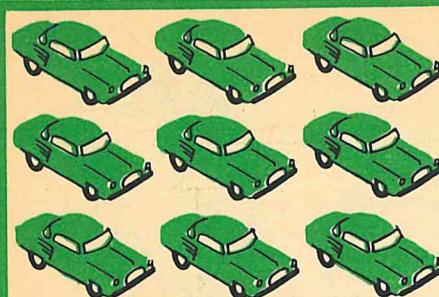
Count all of Jack's money. 100 cents Can Jack buy the ? Yes Yes No No

Counting money in a social situation. To give children experience in counting money needed to make a purchase, if possible,

provide real coins which will duplicate the coins pictured here.

dramatize the story in each picture; make a disk picture of each story; then write the missing answers.

Related facts  $9 + 2 = 11$ ,  $2 + 9 = 11$ ,  $11 - 9 =$   
and  $11 - 2 = 9$ . Children talk about each grouped picture;

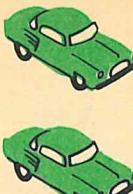


$$11 \text{ is } \underline{9} + \underline{2}$$

$$\begin{array}{r} 9 \\ + 2 \\ \hline 11 \end{array} \quad \begin{array}{r} 4 \\ + 6 \\ \hline 10 \end{array} \quad \begin{array}{r} 9 \\ + 2 \\ \hline 11 \end{array} \quad \begin{array}{r} 6 \\ + 4 \\ \hline 10 \end{array}$$



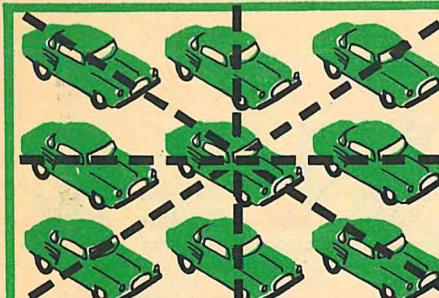
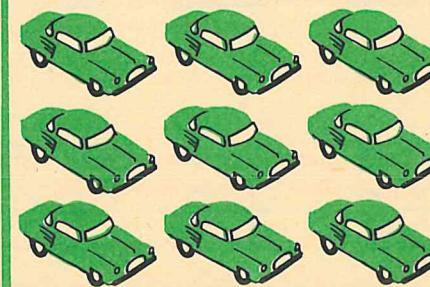
$$\begin{array}{r} 3 \\ + 7 \\ \hline 10 \end{array} \quad \begin{array}{r} 9 \\ + 2 \\ \hline 11 \end{array} \quad \begin{array}{r} 7 \\ + 3 \\ \hline 10 \end{array} \quad \begin{array}{r} 9 \\ + 2 \\ \hline 11 \end{array}$$



$$11 \text{ is } \underline{2} + \underline{9}$$

$$\begin{array}{r} 2 \\ + 9 \\ \hline 11 \end{array} \quad \begin{array}{r} 8 \\ + 2 \\ \hline 10 \end{array} \quad \begin{array}{r} 2 \\ + 9 \\ \hline 11 \end{array} \quad \begin{array}{r} 2 \\ + 8 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 1 \\ + 9 \\ \hline 10 \end{array} \quad \begin{array}{r} 2 \\ + 9 \\ \hline 11 \end{array} \quad \begin{array}{r} 9 \\ + 1 \\ \hline 10 \end{array} \quad \begin{array}{r} 2 \\ + 9 \\ \hline 11 \end{array}$$



Cars in all 11

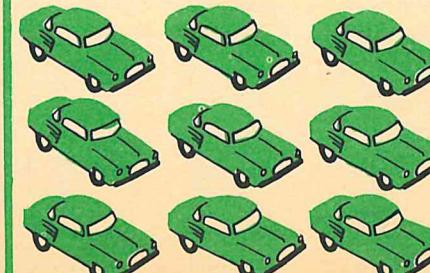
Cross out 9.

Cars left 2

$$\begin{array}{r} 11 \\ - 9 \\ \hline 2 \end{array} \quad \begin{array}{r} 10 \\ - 4 \\ \hline 6 \end{array} \quad \begin{array}{r} 11 \\ - 9 \\ \hline 2 \end{array} \quad \begin{array}{r} 10 \\ - 6 \\ \hline 4 \end{array}$$



$$\begin{array}{r} 10 \\ - 9 \\ \hline 1 \end{array} \quad \begin{array}{r} 11 \\ - 7 \\ \hline 4 \end{array} \quad \begin{array}{r} 11 \\ - 9 \\ \hline 2 \end{array} \quad \begin{array}{r} 11 \\ - 9 \\ \hline 2 \end{array}$$



Cars in all 11

Cross out 2.

Cars left 10

$$\begin{array}{r} 11 \\ - 2 \\ \hline 9 \end{array} \quad \begin{array}{r} 10 \\ - 1 \\ \hline 9 \end{array} \quad \begin{array}{r} 11 \\ - 2 \\ \hline 9 \end{array} \quad \begin{array}{r} 10 \\ - 9 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 11 \\ - 2 \\ \hline 9 \end{array} \quad \begin{array}{r} 10 \\ - 8 \\ \hline 2 \end{array} \quad \begin{array}{r} 10 \\ - 2 \\ \hline 8 \end{array} \quad \begin{array}{r} 11 \\ - 2 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 9 \\ + 2 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 9 \\ + 2 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 3 \\ + 6 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 9 \\ + 2 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 1 \\ + 9 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 6 \\ + 3 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 2 \\ + 9 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 2 \\ + 9 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 9 \\ + 1 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 7 \\ + 2 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 2 \\ + 9 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 2 \\ + 7 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 9 \\ + 2 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 8 \\ + 1 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 2 \\ + 9 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 9 \\ + 2 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 1 \\ + 8 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 2 \\ + 9 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 11 \\ - 9 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 11 \\ - 9 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 9 \\ - 3 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 11 \\ - 9 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 10 \\ - 9 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 10 \\ - 1 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 11 \\ - 2 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 11 \\ - 2 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 10 \\ - 9 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 9 \\ - 7 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 11 \\ - 2 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 9 \\ - 2 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 11 \\ - 9 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 9 \\ - 8 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 11 \\ - 2 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 11 \\ - 9 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 9 \\ - 1 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 11 \\ - 2 \\ \hline 9 \end{array}$$



Jane's bubbles 2

Jim's bubbles 9

Bubbles in all 11



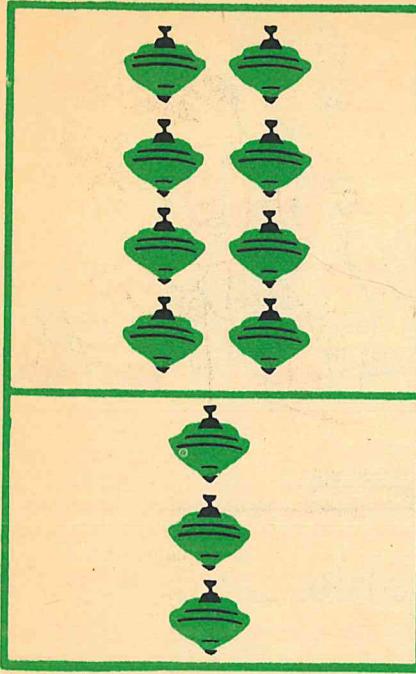
In all 11 birds were eating.

3 birds fly away.

9 birds are left.

Practice on the four new related number facts and 'use of the new facts in story problems. Children will use the pictures to supply the missing numbers in the problems.

supply the missing numbers in the problems.



$$11 \text{ is } \underline{8} + \underline{3}$$

$$\begin{array}{r} + 3 \\ \hline 8 \end{array} \quad \begin{array}{r} + 5 \\ \hline 9 \end{array} \quad \begin{array}{r} + 2 \\ \hline 8 \end{array} \quad \begin{array}{r} + 3 \\ \hline 11 \end{array}$$

$$\begin{array}{r} + 1 \\ \hline 8 \end{array} \quad \begin{array}{r} + 2 \\ \hline 9 \end{array} \quad \begin{array}{r} + 4 \\ \hline 8 \end{array} \quad \begin{array}{r} + 3 \\ \hline 11 \end{array}$$

Tops in all 11

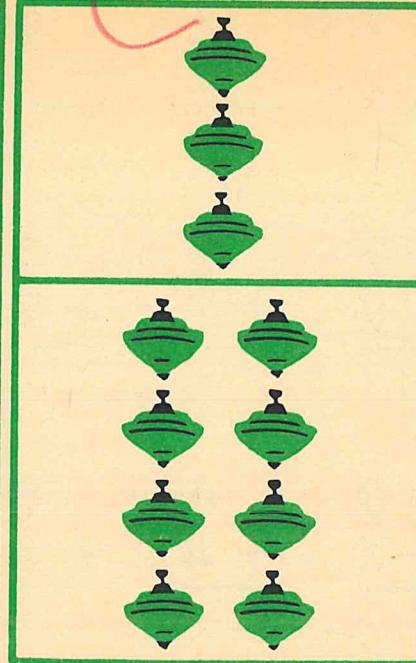
Cross out 8.

Tops left 3

$$\begin{array}{r} - 9 \\ \hline - 1 \end{array} \quad \begin{array}{r} - 11 \\ \hline - 8 \end{array} \quad \begin{array}{r} - 11 \\ \hline - 9 \end{array} \quad \begin{array}{r} - 11 \\ \hline - 8 \end{array}$$

$$\begin{array}{r} - 16 \\ \hline - 3 \end{array} \quad \begin{array}{r} - 3 \\ \hline - 3 \end{array} \quad \begin{array}{r} - 17 \\ \hline - 8 \end{array}$$

7 3 3 3



$$11 \text{ is } \underline{3} + \underline{8}$$

$$\begin{array}{r} + 3 \\ \hline 8 \end{array} \quad \begin{array}{r} + 7 \\ \hline 2 \end{array} \quad \begin{array}{r} + 7 \\ \hline 3 \end{array} \quad \begin{array}{r} + 6 \\ \hline 11 \end{array}$$

$$\begin{array}{r} + 3 \\ \hline 9 \end{array} \quad \begin{array}{r} + 3 \\ \hline 11 \end{array} \quad \begin{array}{r} + 3 \\ \hline 10 \end{array}$$

Tops in all 11

Cross out 3.

Tops left 8

$$\begin{array}{r} - 6 \\ \hline - 3 \end{array} \quad \begin{array}{r} - 9 \\ \hline - 7 \end{array} \quad \begin{array}{r} - 11 \\ \hline - 3 \end{array} \quad \begin{array}{r} - 9 \\ \hline - 2 \end{array}$$

$$\begin{array}{r} - 11 \\ \hline - 3 \end{array} \quad \begin{array}{r} - 9 \\ \hline - 3 \end{array} \quad \begin{array}{r} - 11 \\ \hline - 3 \end{array} \quad \begin{array}{r} - 3 \\ \hline - 3 \end{array}$$

7 2 5 2

$$\begin{array}{r} 8 \\ + 3 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 8 \\ + 3 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 6 \\ + 2 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 8 \\ + 3 \\ \hline 11 \end{array}$$

~~$$\begin{array}{r} 2 \\ + 6 \\ \hline 8 \end{array}$$~~

$$\begin{array}{r} 8 \\ + 3 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 8 \\ + 3 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 4 \\ + 6 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 3 \\ + 8 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 3 \\ + 8 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 8 \\ + 3 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 6 \\ + 4 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 11 \\ - 8 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 11 \\ - 8 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 8 \\ - 6 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 11 \\ - 8 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 8 \\ - 2 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 11 \\ - 8 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 11 \\ - 3 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 11 \\ - 3 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 9 \\ - 7 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 11 \\ - 3 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 9 \\ - 2 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 11 \\ - 3 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 11 \\ - 8 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 10 \\ - 4 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 11 \\ - 3 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 11 \\ - 8 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 10 \\ - 6 \\ \hline 4 \end{array}$$

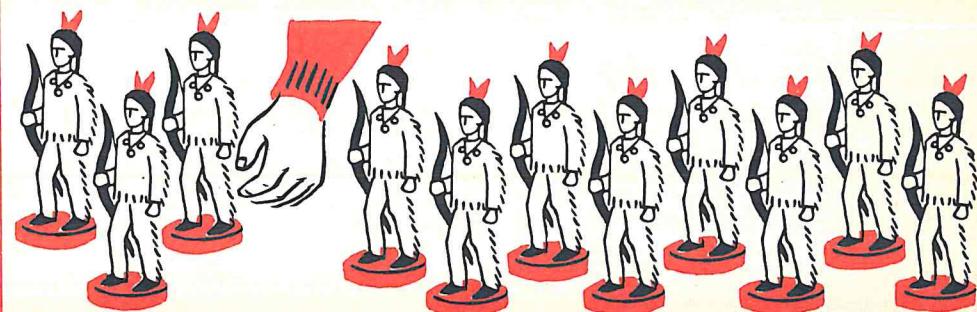
$$\begin{array}{r} 11 \\ - 8 \\ \hline 3 \end{array}$$



Flowers in the  8

Flowers on the table  3

Flowers in all  11



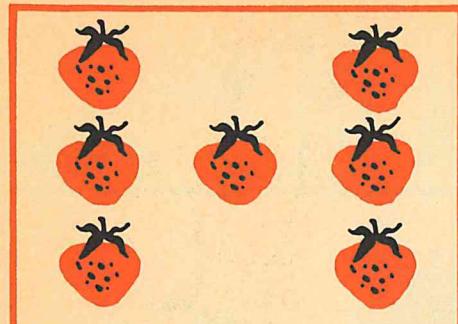
A boy had 11 toy Indians.

He took away  8 Indians.

Indians were left.

Practice on the four new related number facts and use of the new facts in story problems. Children will use the pictures to supply the missing numbers.

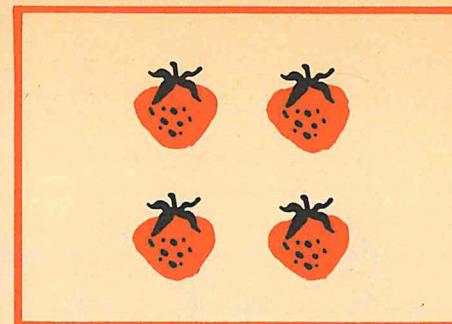
dramatize the story in each picture; make a disk picture for each story; then write the missing answers.



A -  
11 is 7 + 4

$$\begin{array}{r} 7 \\ + 4 \\ \hline 11 \end{array} \quad \begin{array}{r} 8 \\ + 3 \\ \hline 11 \end{array} \quad \begin{array}{r} 7 \\ + 1 \\ \hline 8 \end{array} \quad \begin{array}{r} 7 \\ + 4 \\ \hline 11 \end{array}$$

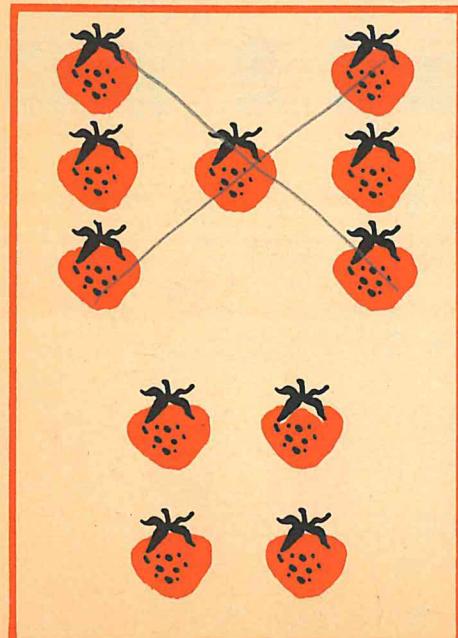
$$\begin{array}{r} 1 \\ + 7 \\ \hline 8 \end{array} \quad \begin{array}{r} 7 \\ + 4 \\ \hline 11 \end{array} \quad \begin{array}{r} 3 \\ + 8 \\ \hline 9 \end{array} \quad \begin{array}{r} 7 \\ + 4 \\ \hline 11 \end{array}$$



11 is 4 + 7

$$\begin{array}{r} 4 \\ + 7 \\ \hline 11 \end{array} \quad \begin{array}{r} 6 \\ + 2 \\ \hline 8 \end{array} \quad \begin{array}{r} 4 \\ + 7 \\ \hline 9 \end{array} \quad \begin{array}{r} 2 \\ + 6 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 7 \\ + 4 \\ \hline 11 \end{array} \quad \begin{array}{r} 4 \\ + 7 \\ \hline 11 \end{array} \quad \begin{array}{r} 5 \\ + 5 \\ \hline 10 \end{array} \quad \begin{array}{r} 4 \\ + 7 \\ \hline 11 \end{array}$$

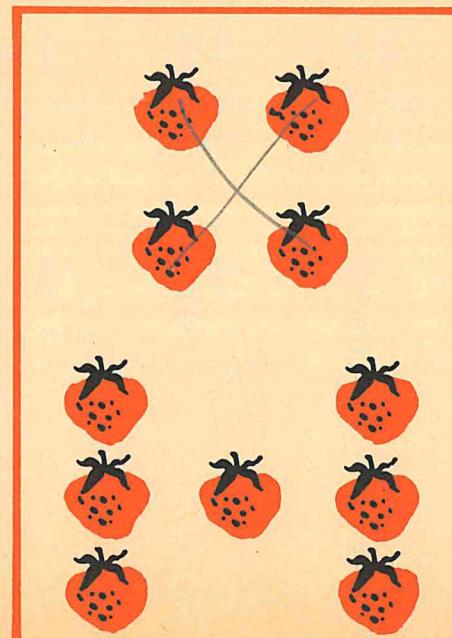


s in all 11  
Cross out 7 s.

s left 4

$$\begin{array}{r} 11 \\ - 7 \\ \hline 4 \end{array} \quad \begin{array}{r} 11 \\ - 8 \\ \hline 3 \end{array} \quad \begin{array}{r} 8 \\ - 7 \\ \hline 1 \end{array} \quad \begin{array}{r} 11 \\ - 7 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 8 \\ - 1 \\ \hline 7 \end{array} \quad \begin{array}{r} 11 \\ - 7 \\ \hline 4 \end{array} \quad \begin{array}{r} 11 \\ - 3 \\ \hline 10 \end{array} \quad \begin{array}{r} 11 \\ - 7 \\ \hline 4 \end{array}$$



s in all 11  
Cross out 4 s.

s left 7

$$\begin{array}{r} 11 \\ - 4 \\ \hline 7 \end{array} \quad \begin{array}{r} 8 \\ - 6 \\ \hline 2 \end{array} \quad \begin{array}{r} 11 \\ - 4 \\ \hline 7 \end{array} \quad \begin{array}{r} 8 \\ - 2 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 11 \\ - 7 \\ \hline 4 \end{array} \quad \begin{array}{r} 11 \\ - 4 \\ \hline 7 \end{array} \quad \begin{array}{r} 10 \\ - 5 \\ \hline 5 \end{array} \quad \begin{array}{r} 11 \\ - 4 \\ \hline 7 \end{array}$$

150

$$\begin{array}{r} 7 \\ + 4 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 7 \\ + 4 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 8 \\ + 2 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 7 \\ + 4 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 2 \\ + 8 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 7 \\ + 4 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 4 \\ + 7 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 3 \\ + 6 \\ \hline 18 \end{array}$$

$$\begin{array}{r} 4 \\ + 7 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 6 \\ + 3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 5 \\ + 5 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 4 \\ + 7 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 7 \\ + 4 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 4 \\ + 7 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 4 \\ + 4 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 4 \\ + 7 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 7 \\ + 4 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 4 \\ + 7 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 11 \\ - 7 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 11 \\ - 7 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 10 \\ - 8 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 11 \\ - 7 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 10 \\ - 2 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 11 \\ - 7 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 11 \\ - 4 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 9 \\ - 3 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 11 \\ - 4 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 9 \\ - 6 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 10 \\ - 5 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 11 \\ - 4 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 11 \\ - 7 \\ \hline 4 \end{array}$$

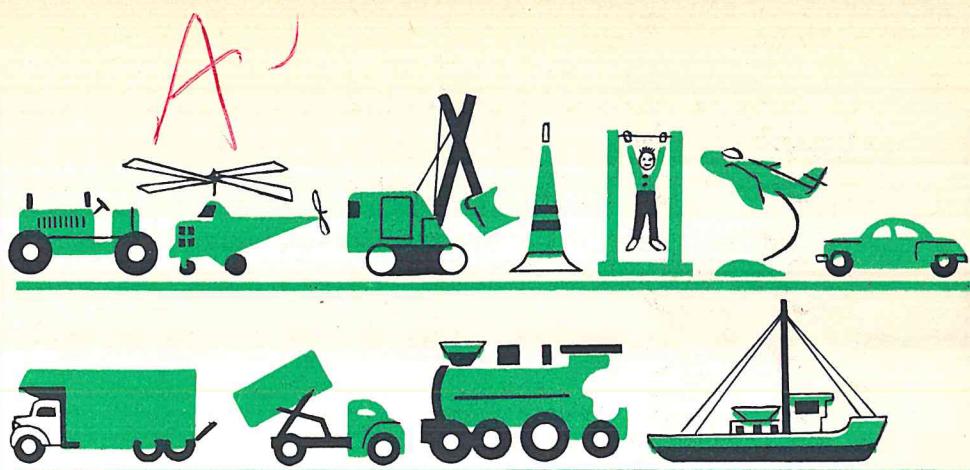
$$\begin{array}{r} 11 \\ - 4 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 8 \\ - 4 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 11 \\ - 4 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 11 \\ - 7 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 11 \\ - 4 \\ \hline 7 \end{array}$$



Toys in the top row 7

Toys in the bottom row 4

Toys in all 11



How many children in all? 11

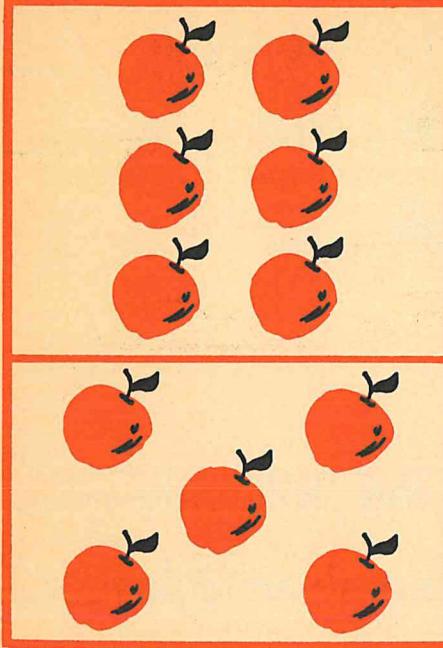
How many pencils in all? 11

Each child should have a pencil.

How many more pencils are needed? 4

Visualizing related facts  $6 + 5 = 11$ ,  $5 + 6 = 11$ ,  $11 - 6 = 5$ , and  $11 - 5 = 6$ . Children talk about each grouped picture;

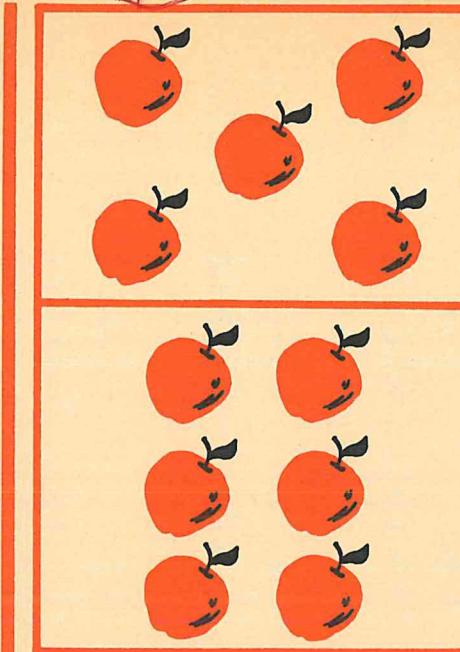
dramatize the story in each picture; make a disk picture for each story; then write the missing answers.



$$11 \text{ is } \underline{6} + \underline{5}$$

$$\begin{array}{r} 6 \\ + 5 \\ \hline 11 \end{array} \quad \begin{array}{r} 5 \\ + 3 \\ \hline 8 \end{array} \quad \begin{array}{r} 3 \\ + 5 \\ \hline 8 \end{array} \quad \begin{array}{r} 6 \\ + 5 \\ \hline 11 \end{array}$$

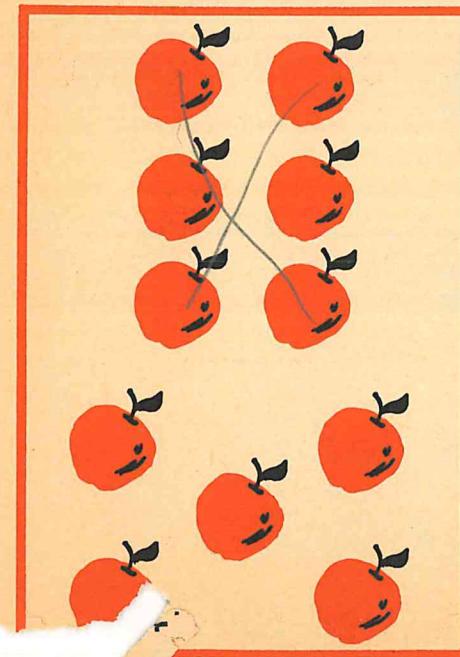
$$\begin{array}{r} 7 \\ + 2 \\ \hline 9 \end{array} \quad \begin{array}{r} 6 \\ + 5 \\ \hline 11 \end{array} \quad \begin{array}{r} 2 \\ + 7 \\ \hline 9 \end{array} \quad \begin{array}{r} 6 \\ + 5 \\ \hline 11 \end{array}$$



$$11 \text{ is } \underline{5} + \underline{6}$$

$$\begin{array}{r} 5 \\ + 6 \\ \hline 11 \end{array} \quad \begin{array}{r} 3 \\ + 6 \\ \hline 9 \end{array} \quad \begin{array}{r} 5 \\ + 6 \\ \hline 11 \end{array} \quad \begin{array}{r} 6 \\ + 3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 7 \\ + 1 \\ \hline 8 \end{array} \quad \begin{array}{r} 5 \\ + 6 \\ \hline 11 \end{array} \quad \begin{array}{r} 1 \\ + 7 \\ \hline 8 \end{array} \quad \begin{array}{r} 5 \\ + 6 \\ \hline 11 \end{array}$$



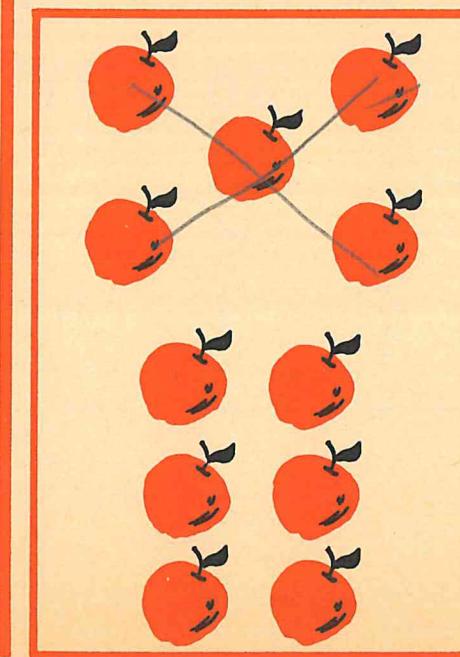
Apples in all 11

Cross out 6.

Apples left 5

$$\begin{array}{r} 11 \\ - 6 \\ \hline 5 \end{array} \quad \begin{array}{r} 8 \\ - 5 \\ \hline 3 \end{array} \quad \begin{array}{r} 8 \\ - 3 \\ \hline 5 \end{array} \quad \begin{array}{r} 11 \\ - 6 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 9 \\ - 7 \\ \hline 2 \end{array} \quad \begin{array}{r} 11 \\ - 6 \\ \hline 5 \end{array} \quad \begin{array}{r} 9 \\ - 2 \\ \hline 7 \end{array} \quad \begin{array}{r} 11 \\ - 6 \\ \hline 5 \end{array}$$



Apples in all 11

Cross out 5.

Apples left 6

$$\begin{array}{r} 11 \\ - 5 \\ \hline 6 \end{array} \quad \begin{array}{r} 9 \\ - 3 \\ \hline 6 \end{array} \quad \begin{array}{r} 11 \\ - 5 \\ \hline 6 \end{array} \quad \begin{array}{r} 9 \\ - 5 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 8 \\ - 7 \\ \hline 1 \end{array} \quad \begin{array}{r} 11 \\ - 5 \\ \hline 6 \end{array} \quad \begin{array}{r} 8 \\ - 1 \\ \hline 7 \end{array} \quad \begin{array}{r} 11 \\ - 5 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 6 \\ + 5 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 6 \\ + 5 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 3 \\ + 7 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 6 \\ + 5 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 7 \\ + 3 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 6 \\ + 5 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 5 \\ + 6 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 6 \\ + 2 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 5 \\ + 6 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 2 \\ + 6 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 5 \\ + 6 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 5 \\ + 6 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 6 \\ + 5 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 4 \\ + 4 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 5 \\ + 6 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 6 \\ + 5 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 11 \\ - 6 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 11 \\ - 6 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 10 \\ - 3 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 11 \\ - 6 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 10 \\ - 7 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 11 \\ - 5 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 8 \\ - 6 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 11 \\ - 5 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 8 \\ - 2 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 11 \\ - 5 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 11 \\ - 5 \\ \hline \checkmark \end{array}$$

$$\begin{array}{r} 11 \\ - 6 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 8 \\ - 4 \\ \hline \checkmark \end{array}$$

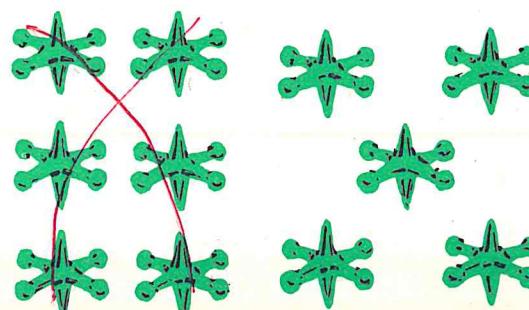
$$\begin{array}{r} 11 \\ - 5 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 11 \\ - 6 \\ \hline 5 \end{array}$$



C  
 s in the short pile 10  
 s in the tall pile 5  
 s in all 11

s in the tall pile 5  
 s in the short pile 6  
 s in all 11



11 jacks in all

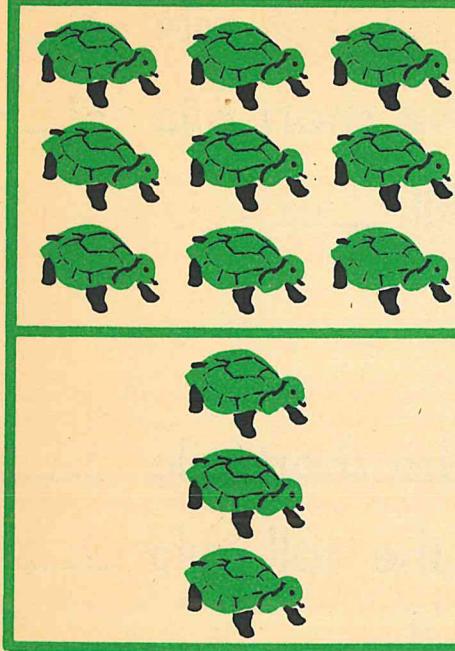
Mary picks up 6 jacks.

Cross out these 6 jacks.

You now see 5 jacks left.

Visualizing related facts  $9 + 3 = 12$ ,  $3 + 9 = 12$ ,  $12 - 9 = 3$ , and  $12 - 3 = 9$ . Children talk about each grouped picture; then write the missing answers.

dramatize the story in each picture; make a disk picture for each story; then write the missing answers.

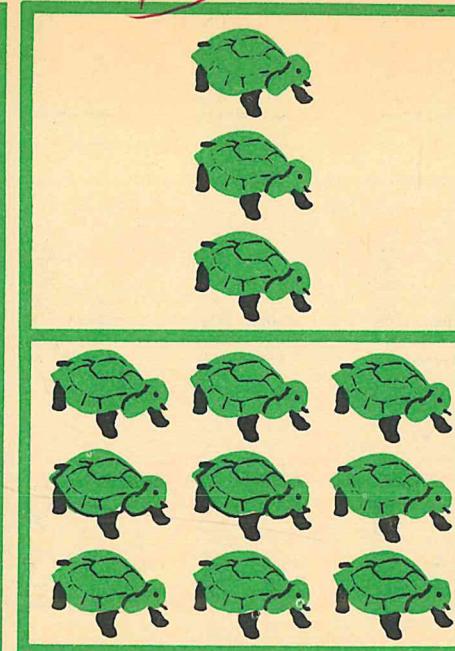


$$12 \text{ is } \underline{9} + \underline{3}$$

$$\begin{array}{r} 9 \\ + 3 \\ \hline 12 \end{array} \quad \begin{array}{r} 4 \\ + 5 \\ \hline 9 \end{array} \quad \begin{array}{r} 9 \\ + 3 \\ \hline 12 \end{array} \quad \begin{array}{r} 5 \\ + 4 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 8 \\ + 1 \\ \hline 9 \end{array} \quad \begin{array}{r} 9 \\ + 3 \\ \hline 12 \end{array} \quad \begin{array}{r} 1 \\ + 8 \\ \hline 9 \end{array} \quad \begin{array}{r} 9 \\ + 3 \\ \hline 12 \end{array}$$

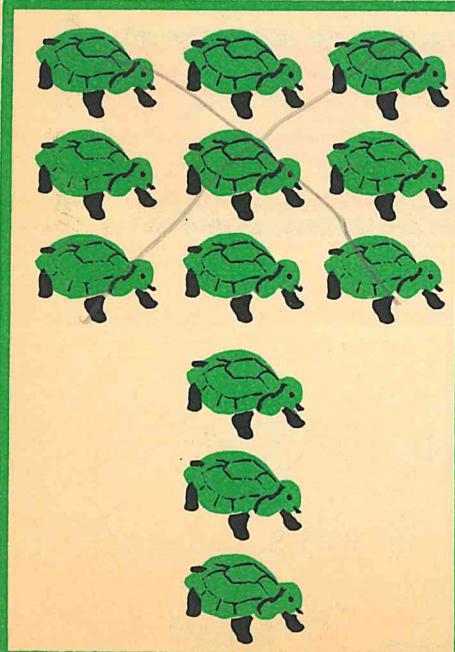
B



$$12 \text{ is } \underline{3} + \underline{9}$$

$$\begin{array}{r} 3 \\ + 9 \\ \hline 12 \end{array} \quad \begin{array}{r} 4 \\ + 6 \\ \hline 10 \end{array} \quad \begin{array}{r} 6 \\ + 4 \\ \hline 10 \end{array} \quad \begin{array}{r} 3 \\ + 9 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 7 \\ + 3 \\ \hline 10 \end{array} \quad \begin{array}{r} 3 \\ + 9 \\ \hline 12 \end{array} \quad \begin{array}{r} 7 \\ + 3 \\ \hline 10 \end{array} \quad \begin{array}{r} 3 \\ + 9 \\ \hline 12 \end{array}$$



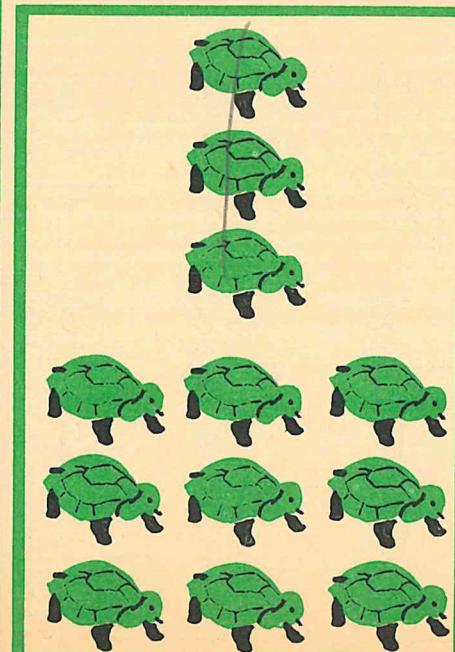
s in all 12

Cross out 9 s.

s left 3

$$\begin{array}{r} 12 \\ - 9 \\ \hline 3 \end{array} \quad \begin{array}{r} 9 \\ - 4 \\ \hline 5 \end{array} \quad \begin{array}{r} 12 \\ - 9 \\ \hline 3 \end{array} \quad \begin{array}{r} 9 \\ - 5 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 9 \\ - 8 \\ \hline 1 \end{array} \quad \begin{array}{r} 12 \\ - 9 \\ \hline 3 \end{array} \quad \begin{array}{r} 9 \\ - 1 \\ \hline 8 \end{array} \quad \begin{array}{r} 12 \\ - 9 \\ \hline 3 \end{array}$$



s in all 12

Cross out 3 s.

s left 9

$$\begin{array}{r} 12 \\ - 3 \\ \hline 9 \end{array} \quad \begin{array}{r} 10 \\ - 4 \\ \hline 6 \end{array} \quad \begin{array}{r} 10 \\ - 6 \\ \hline 4 \end{array} \quad \begin{array}{r} 12 \\ - 3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 10 \\ - 3 \\ \hline 7 \end{array} \quad \begin{array}{r} 12 \\ - 3 \\ \hline 9 \end{array} \quad \begin{array}{r} 10 \\ - 7 \\ \hline 3 \end{array} \quad \begin{array}{r} 12 \\ - 3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 9 \\ + 3 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 9 \\ + 3 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 2 \\ + 8 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 7 \\ + 4 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 5 \\ + 3 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 9 \\ + 3 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 3 \\ + 9 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 3 \\ + 9 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 4 \\ + 7 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 3 \\ + 5 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 3 \\ + 9 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 8 \\ + 2 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 9 \\ + 3 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 3 \\ + 9 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 8 \\ + 3 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 3 \\ + 9 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 3 \\ + 8 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 9 \\ + 3 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 12 \\ - 9 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 12 \\ - 9 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 10 \\ - 2 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 11 \\ - 7 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 8 \\ - 5 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 12 \\ - 9 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 12 \\ - 3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 12 \\ - 3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 11 \\ - 4 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 8 \\ - 3 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 12 \\ - 3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 10 \\ - 8 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 12 \\ - 9 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 12 \\ - 3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 11 \\ - 8 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 12 \\ - 3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 11 \\ - 3 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 12 \\ - 9 \\ \hline 3 \end{array}$$



Books in the tall pile 12

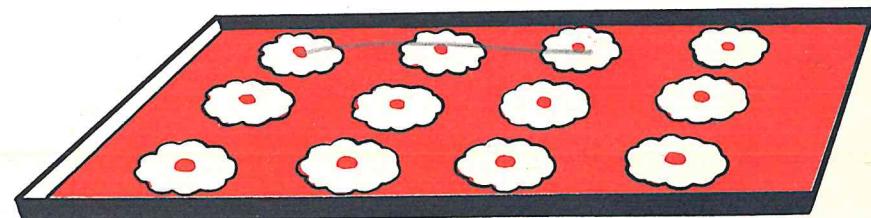
Books in the short pile 3

Books in all 15

Books in the short pile 3

Books in the tall pile 12

Books in all 15



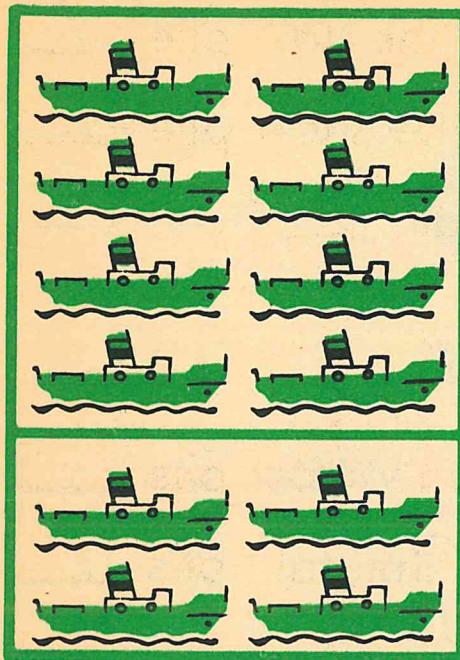
12 o's in all

Mary takes away 3 o's.

Cross out these 3 o's.

You now see 9 o's left.

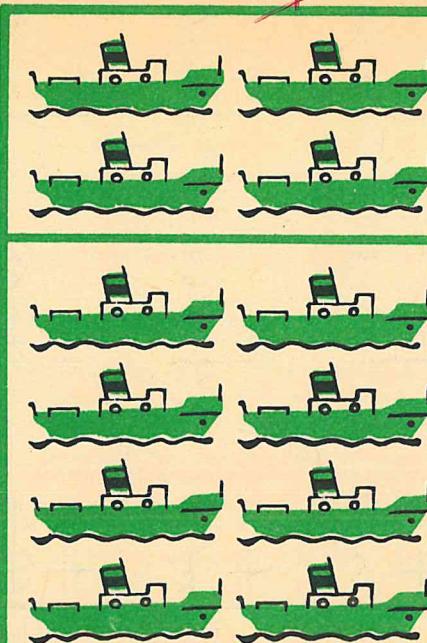
B



$$12 \text{ is } \underline{8} + \underline{4}$$

$$\begin{array}{r} 8 \\ + 4 \\ \hline 12 \end{array} \quad \begin{array}{r} 8 \\ + 2 \\ \hline 10 \end{array} \quad \begin{array}{r} 2 \\ + 8 \\ \hline 10 \end{array} \quad \begin{array}{r} 8 \\ + 4 \\ \hline 12 \end{array}$$

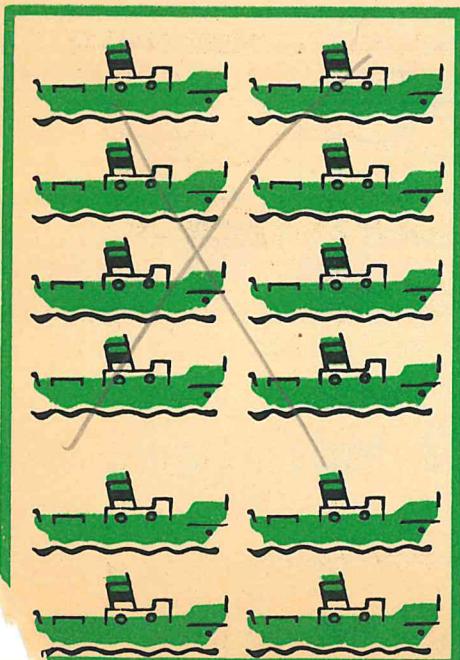
$$\begin{array}{r} 1 \\ + 9 \\ \hline 10 \end{array} \quad \begin{array}{r} 8 \\ + 4 \\ \hline 12 \end{array} \quad \begin{array}{r} 9 \\ + 1 \\ \hline 10 \end{array} \quad \begin{array}{r} 8 \\ + 4 \\ \hline 12 \end{array}$$



$$12 \text{ is } \underline{4} + \underline{8}$$

$$\begin{array}{r} 4 \\ + 8 \\ \hline 12 \end{array} \quad \begin{array}{r} 6 \\ + 2 \\ \hline 8 \end{array} \quad \begin{array}{r} 4 \\ + 8 \\ \hline 12 \end{array} \quad \begin{array}{r} 2 \\ + 6 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 7 \\ + 1 \\ \hline 8 \end{array} \quad \begin{array}{r} 4 \\ + 8 \\ \hline 12 \end{array} \quad \begin{array}{r} 1 \\ + 7 \\ \hline 8 \end{array} \quad \begin{array}{r} 4 \\ + 8 \\ \hline 12 \end{array}$$



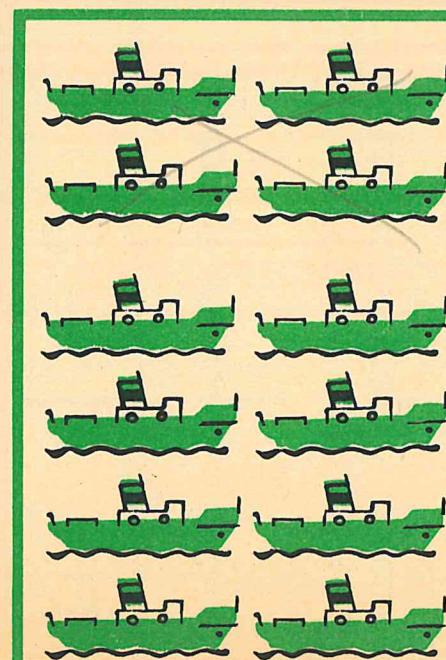
Boats in all 12

Cross out 8.

Boats left 4

$$\begin{array}{r} 12 \\ - 8 \\ \hline 4 \end{array} \quad \begin{array}{r} 10 \\ - 8 \\ \hline 2 \end{array} \quad \begin{array}{r} 10 \\ - 2 \\ \hline 8 \end{array} \quad \begin{array}{r} 12 \\ - 8 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 10 \\ - 1 \\ \hline 9 \end{array} \quad \begin{array}{r} 12 \\ - 8 \\ \hline 4 \end{array} \quad \begin{array}{r} 10 \\ - 9 \\ \hline 1 \end{array} \quad \begin{array}{r} 12 \\ - 8 \\ \hline 4 \end{array}$$



Boats in all 12

Cross out 4.

Boats left 8

$$\begin{array}{r} 12 \\ - 4 \\ \hline 8 \end{array} \quad \begin{array}{r} 8 \\ - 6 \\ \hline 2 \end{array} \quad \begin{array}{r} 12 \\ - 4 \\ \hline 8 \end{array} \quad \begin{array}{r} 8 \\ - 2 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 8 \\ - 7 \\ \hline 1 \end{array} \quad \begin{array}{r} 12 \\ - 4 \\ \hline 8 \end{array} \quad \begin{array}{r} 8 \\ - 1 \\ \hline 7 \end{array} \quad \begin{array}{r} 12 \\ - 4 \\ \hline 8 \end{array}$$

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$$\begin{array}{r} 8 \\ + 4 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 8 \\ + 4 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 9 \\ + 2 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 8 \\ + 1 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 8 \\ + 4 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 4 \\ + 5 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 4 \\ + 8 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 4 \\ + 8 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 1 \\ + 8 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 2 \\ + 9 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 5 \\ + 4 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 4 \\ + 8 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 8 \\ + 4 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 4 \\ + 8 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 1 \\ + 9 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 8 \\ + 4 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 9 \\ + 1 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 4 \\ + 8 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 12 \\ - 8 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 12 \\ - 8 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 11 \\ - 9 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 9 \\ - 8 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 12 \\ - 8 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 9 \\ - 4 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 12 \\ - 4 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 12 \\ - 4 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 9 \\ - 1 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 11 \\ - 2 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 9 \\ - 5 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 12 \\ - 4 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 12 \\ - 8 \\ \hline 4 \end{array}$$

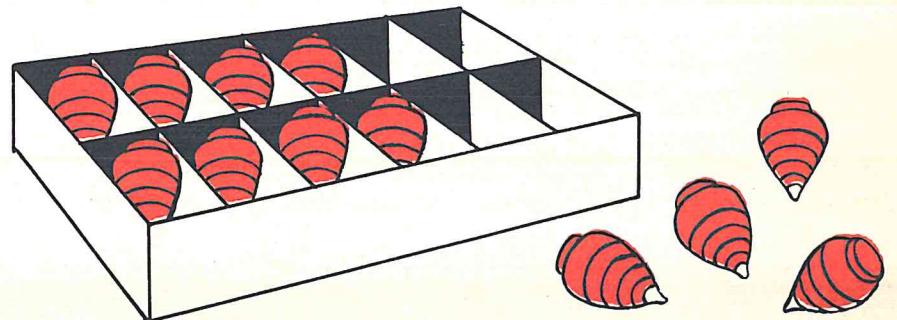
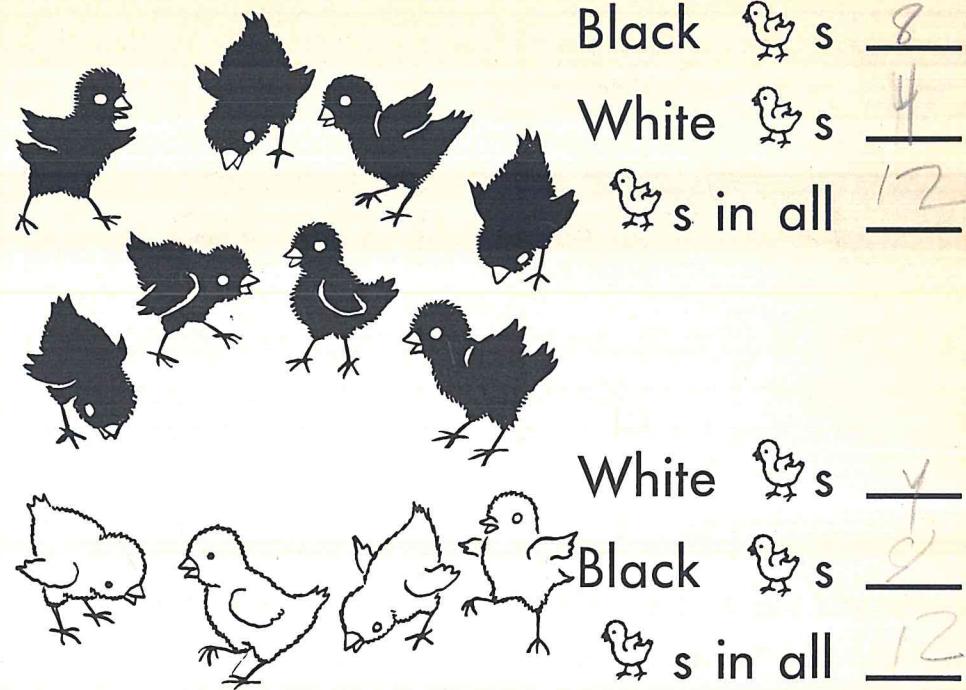
$$\begin{array}{r} 12 \\ - 4 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 10 \\ - 1 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 12 \\ - 8 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 10 \\ - 9 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 12 \\ - 4 \\ \hline 8 \end{array}$$



This box holds 12 tops in all.

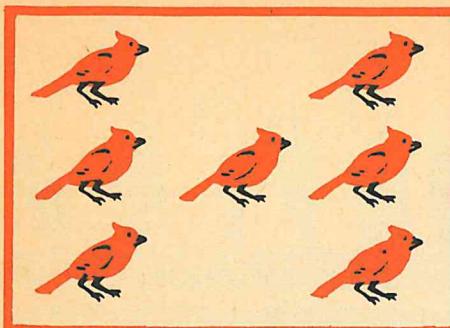
Jack took out 4 tops.

8 tops are left in the box.

Practice on the four new related number facts and use of the new facts in story problems. Children will use the pictures to supply the missing numbers in the problems.

supply the missing numbers in the problems.

dramatize the story in each picture; make a disk picture for each story; then write the missing answers.



$$12 \text{ is } \underline{7} + \underline{5}$$

$$\begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array} \quad \begin{array}{r} 4 \\ + 6 \\ \hline 10 \end{array} \quad \begin{array}{r} 6 \\ + 4 \\ \hline 10 \end{array} \quad \begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$$



$$\begin{array}{r} 4 \\ + 5 \\ \hline 8 \end{array} \quad \begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array} \quad \begin{array}{r} 5 \\ + 4 \\ \hline 8 \end{array} \quad \begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$$



$$12 \text{ is } \underline{5} + \underline{7}$$

$$\begin{array}{r} 5 \\ + 7 \\ \hline 12 \end{array} \quad \begin{array}{r} 3 \\ + 7 \\ \hline 10 \end{array} \quad \begin{array}{r} 5 \\ + 7 \\ \hline 12 \end{array} \quad \begin{array}{r} 7 \\ + 3 \\ \hline 10 \end{array}$$



$$\begin{array}{r} 6 \\ + 3 \\ \hline 10 \end{array} \quad \begin{array}{r} 5 \\ + 7 \\ \hline 12 \end{array} \quad \begin{array}{r} 3 \\ + 6 \\ \hline 10 \end{array} \quad \begin{array}{r} 5 \\ + 7 \\ \hline 12 \end{array}$$



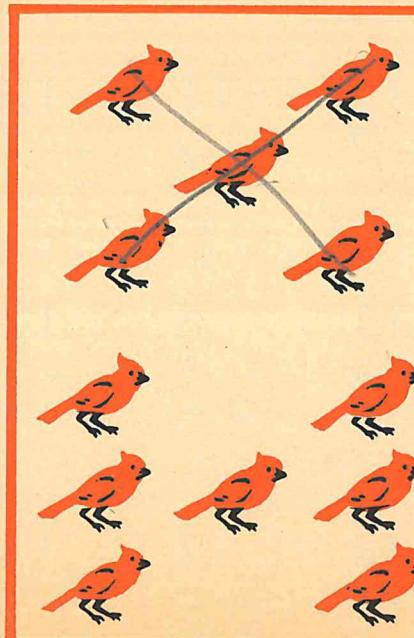
Birds in all 12

Cross out 7.

Birds left 5

$$\begin{array}{r} 12 \\ - 7 \\ \hline 5 \end{array} \quad \begin{array}{r} 10 \\ - 4 \\ \hline 6 \end{array} \quad \begin{array}{r} 10 \\ - 6 \\ \hline 4 \end{array} \quad \begin{array}{r} 12 \\ - 7 \\ \hline 5 \end{array}$$
  

$$\begin{array}{r} 9 \\ - 4 \\ \hline 5 \end{array} \quad \begin{array}{r} 12 \\ - 7 \\ \hline 5 \end{array} \quad \begin{array}{r} 9 \\ - 5 \\ \hline 4 \end{array} \quad \begin{array}{r} 12 \\ - 7 \\ \hline 5 \end{array}$$



Birds in all 12

Cross out 5.

Birds left 7

$$\begin{array}{r} 12 \\ - 5 \\ \hline 7 \end{array} \quad \begin{array}{r} 10 \\ - 3 \\ \hline 8 \end{array} \quad \begin{array}{r} 12 \\ - 5 \\ \hline 7 \end{array} \quad \begin{array}{r} 10 \\ - 7 \\ \hline 4 \end{array}$$
  

$$\begin{array}{r} 9 \\ - 6 \\ \hline 3 \end{array} \quad \begin{array}{r} 12 \\ - 5 \\ \hline 7 \end{array} \quad \begin{array}{r} 9 \\ - 3 \\ \hline 6 \end{array} \quad \begin{array}{r} 12 \\ - 5 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 9 \\ + 2 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 2 \\ + 9 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 5 \\ + 7 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 3 \\ + 8 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 5 \\ + 7 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 8 \\ + 3 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 1 \\ + 7 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 5 \\ + 7 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 5 \\ + 7 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 7 \\ + 1 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 5 \\ + 7 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 5 \\ + 6 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 12 \\ - 7 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 12 \\ - 7 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 11 \\ - 9 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 12 \\ - 7 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 11 \\ - 2 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 12 \\ - 7 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 12 \\ - 5 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 11 \\ - 3 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 12 \\ - 5 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 11 \\ - 8 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 8 \\ - 1 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 12 \\ - 5 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 12 \\ - 7 \\ \hline 5 \end{array}$$

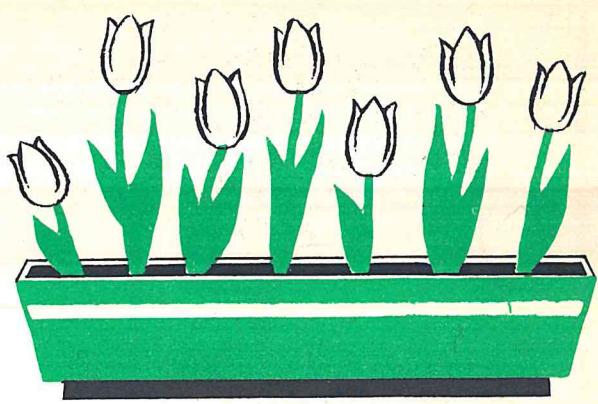
$$\begin{array}{r} 12 \\ - 5 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 8 \\ - 7 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 12 \\ - 5 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 12 \\ - 7 \\ \hline 5 \end{array}$$

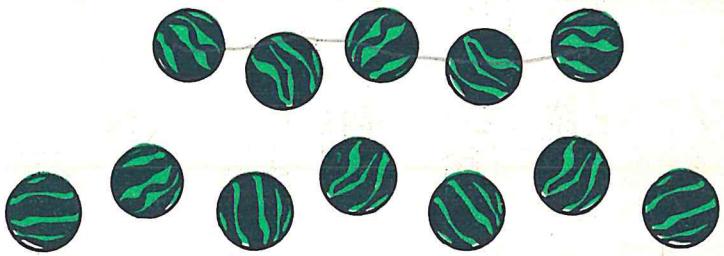
$$\begin{array}{r} 11 \\ - 5 \\ \hline 4 \end{array}$$



Flowers in the little dish 5

Flowers in the big dish 7

Flowers in all 12



Jim had 12 s in all.

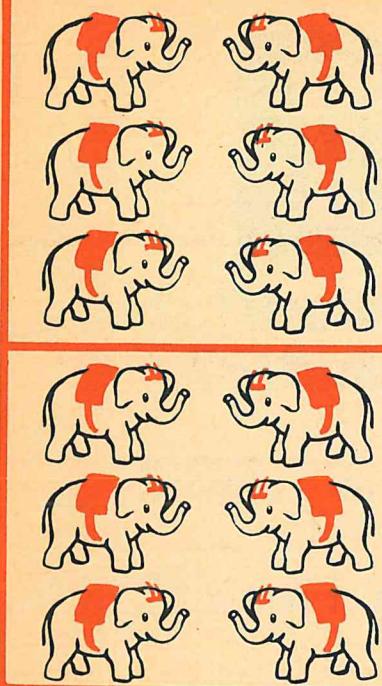
He gives Jack 5 s.

Cross out these 5 s.

Jim will have 7 s left.

Visualizing related facts  $6 + 6 = 12$  and  $12 - 6 = 6$ . Children talk about each grouped picture; dramatize the story in

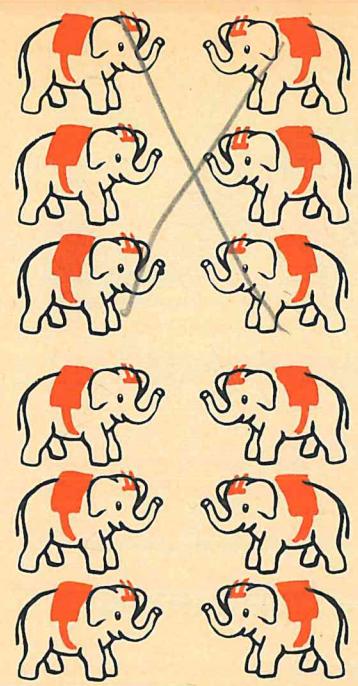
each picture; make a drawing for each story; then write the missing answers.



$$12 = \underline{6} + \underline{\quad}$$

$$\begin{array}{r} 6 \\ + 6 \\ \hline 12 \end{array} \quad \begin{array}{r} 9 \\ + 1 \\ \hline 10 \end{array} \quad \begin{array}{r} 1 \\ + 9 \\ \hline 10 \end{array} \quad \begin{array}{r} 6 \\ + 6 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 8 \\ + 2 \\ \hline 10 \end{array} \quad \begin{array}{r} 6 \\ + 6 \\ \hline 12 \end{array} \quad \begin{array}{r} 2 \\ + 8 \\ \hline 10 \end{array} \quad \begin{array}{r} 6 \\ + 6 \\ \hline 12 \end{array}$$



s in all 12  
Cross out 6 s.

s left 6

$$\begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array} \quad \begin{array}{r} 10 \\ - 9 \\ \hline 6 \end{array} \quad \begin{array}{r} 10 \\ - 1 \\ \hline 9 \end{array} \quad \begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array}$$
  

$$\begin{array}{r} 10 \\ - 8 \\ \hline 6 \end{array} \quad \begin{array}{r} 12 \\ - 6 \\ \hline 8 \end{array} \quad \begin{array}{r} 10 \\ - 2 \\ \hline 8 \end{array} \quad \begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 6 \\ + 6 \\ \hline 12 \end{array} \quad \begin{array}{r} 6 \\ + 6 \\ \hline 12 \end{array} \quad \begin{array}{r} 5 \\ + 5 \\ \hline 10 \end{array} \quad \begin{array}{r} 6 \\ + 5 \\ \hline 11 \end{array} \quad \begin{array}{r} 6 \\ + 6 \\ \hline 12 \end{array} \quad \begin{array}{r} 3 \\ + 5 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 6 \\ + 6 \\ \hline 12 \end{array} \quad \begin{array}{r} 5 \\ + 6 \\ \hline 11 \end{array} \quad \begin{array}{r} 7 \\ + 4 \\ \hline 11 \end{array} \quad \begin{array}{r} 4 \\ + 7 \\ \hline 11 \end{array} \quad \begin{array}{r} 6 \\ + 5 \\ \hline 10 \end{array} \quad \begin{array}{r} 6 \\ + 6 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 3 \\ + 6 \\ \hline 11 \end{array} \quad \begin{array}{r} 8 \\ + 6 \\ \hline 12 \end{array} \quad \begin{array}{r} 6 \\ + 3 \\ \hline 11 \end{array} \quad \begin{array}{r} 7 \\ + 4 \\ \hline 11 \end{array} \quad \begin{array}{r} 6 \\ + 6 \\ \hline 12 \end{array} \quad \begin{array}{r} 4 \\ + 7 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array} \quad \begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array} \quad \begin{array}{r} 10 \\ - 5 \\ \hline 5 \end{array} \quad \begin{array}{r} 11 \\ - 6 \\ \hline 5 \end{array} \quad \begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array} \quad \begin{array}{r} 8 \\ - 3 \\ \hline 5 \end{array}$$

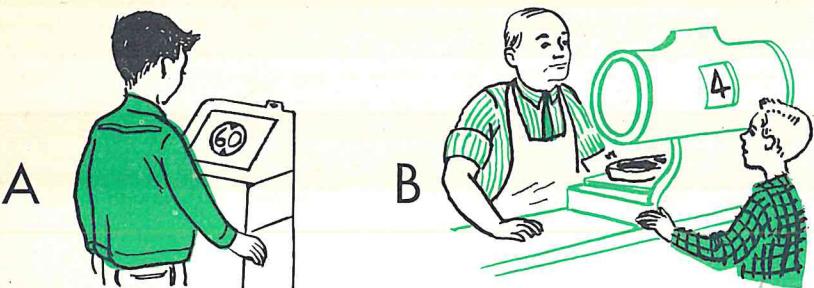
$$\begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array} \quad \begin{array}{r} 11 \\ - 5 \\ \hline 6 \end{array} \quad \begin{array}{r} 11 \\ - 7 \\ \hline 4 \end{array} \quad \begin{array}{r} 11 \\ - 4 \\ \hline 7 \end{array} \quad \begin{array}{r} 11 \\ - 6 \\ \hline 5 \end{array} \quad \begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 11 \\ - 3 \\ \hline 8 \end{array} \quad \begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array} \quad \begin{array}{r} 11 \\ - 8 \\ \hline 3 \end{array} \quad \begin{array}{r} 11 \\ - 7 \\ \hline 4 \end{array} \quad \begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array} \quad \begin{array}{r} 11 \\ - 4 \\ \hline 7 \end{array}$$

F

Can you answer?

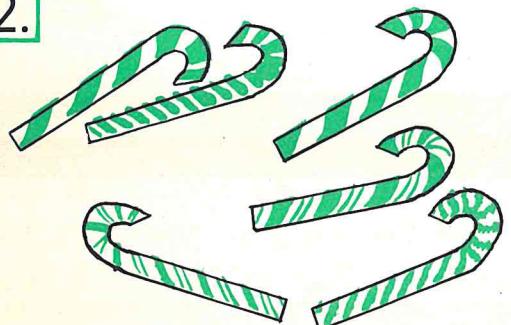
1.

A. Bob weighs how many pounds? 60

Sally weighs 50 pounds.

Who weighs more? 60B. Dick's mother wants 5 pounds of meat. How many more pounds does Dick need to buy? 1

2.

Sally and Mary each get the same. How many pieces in all? 5Each girl gets  $\frac{1}{2}$ .Sally gets 3. Mary gets 2.

3.

160	182	106
136	163	128

Which number is largest? 182Which number is smallest? 1364. How many inches in 1 foot? 125. How many pints in 1 quart? 136. How many are in 1 dozen? 98. 1 nickel = 5 pennies.1 dime = 10 nickels.1 quarter = 1 nickels.1 dollar = 200 quarters.



**Merton**

**Brueckner**

**Holt, Rinehart and Winston**

